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BUREAU OF AMERICAN ETHNOLOGY
BULLETIN 122

AN ARCHAEOLOGICAL SURVEY OF WHEELER BASIN ON THE TENNESSEE RIVER IN NORTHERN ALABAMA

By

WILLIAM S. WEBB

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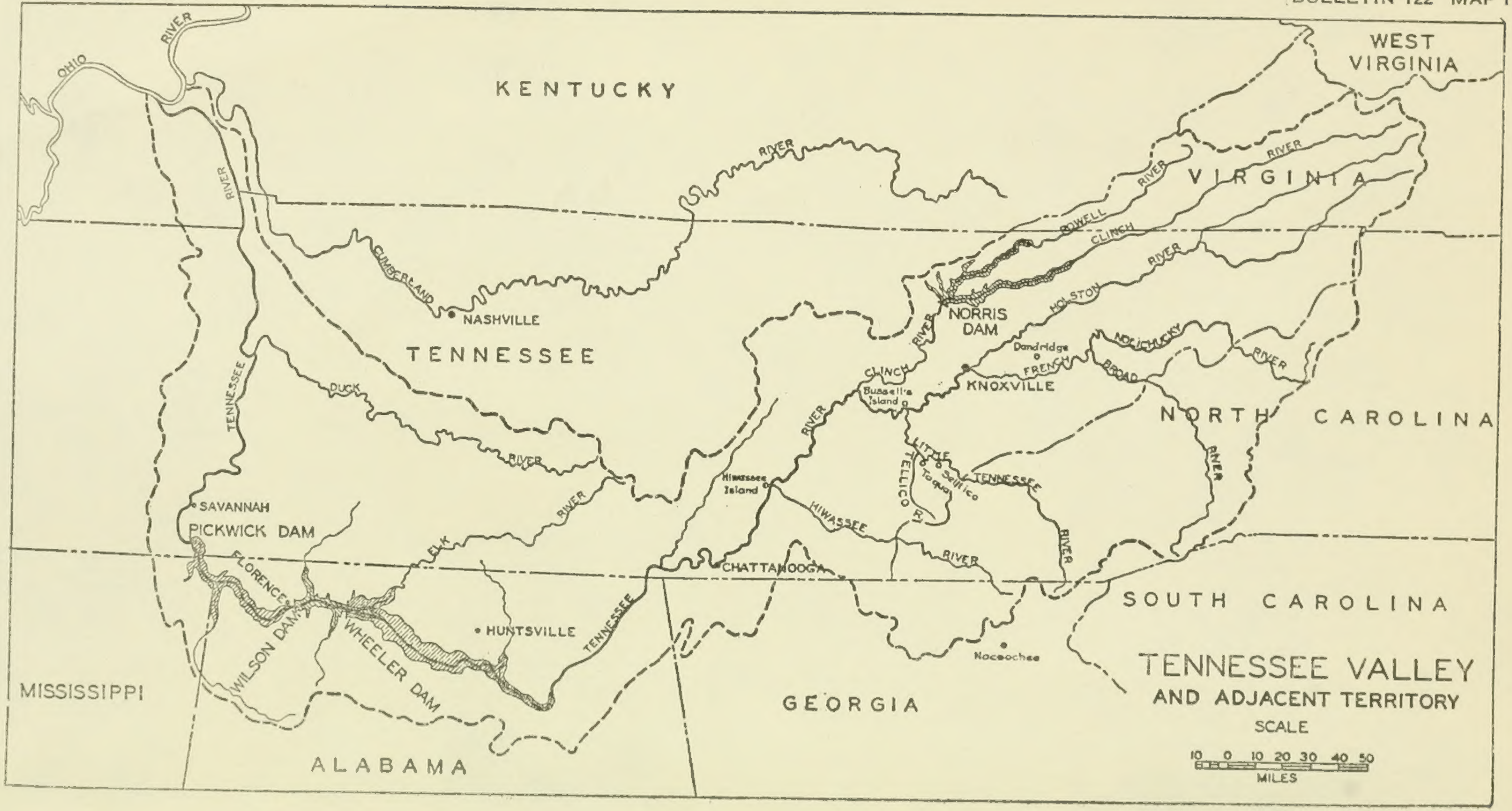

TENNESSEE VALLEY
AND ADJACENT TERRITORY

KENTUCKY
WEST VIRGINIA
VIRGINIA
TENNESSEE
NORTH CAROLINA
SOUTH CAROLINA
GEORGIA
ALABAMA
MISSISSIPPI
OHIO RIVER
RIVER
CUMBERLAND
NASHVILLE
TENNESSEE
DUCK
RIVER
RIVER
ELK
SAVANNAH
PICKWICK DAM
FLORENCE
WILSON DAM
WHEELER DAM
HUNTSVILLE
TENNESSEE
CHATTANOOGA
Hiwassee Island
HIWASSEE
RIVER
RIVER
CLINCH
Bussell's Island
TELLICO R.
LITTLE TENNESSEE
Sellico
Toqua
RIVER
KNOXVILLE
FRENCH BROAD
Dandridge
NORRIS DAM
HOLSTON
RIVER
CLINCH
POWELL
RIVER
RIVER
NOLICHUCKY
RIVER
RIVER
Nacoochee
SCALE
10 0 10 20 30 40 50
MILES

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By

WILLIAM S. WEBB

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LETTER OF TRANSMITTAL

Smithsonian Institution,
Bureau of American Ethnology,
Washington, D. C., June 10, 1938.

Sir: I have the honor to transmit herewith a manuscript entitled "An Archaeological Survey of Wheeler Basin on the Tennessee River in Northern Alabama," by William S. Webb, and to recommend that it be published as a bulletin of the Bureau of American Ethnology. The funds for the publication of this report have been made available by the Tennessee Valley Authority.

Very respectfully yours,

M. W. Stirling, *Chief.*

Dr. C. G. Abbot,
Secretary of the Smithsonian Institution.

LETTER OF TRANSMITTAL

KNOXVILLE, TENN., *June 1, 1938.*

SIR: Submitted herewith is a manuscript entitled "An Archaeological Survey of the Wheeler Basin on the Tennessee River in Northern Alabama," prepared by Maj. William S. Webb, Senior Archaeologist, Social and Economic Research Division. Plans for the study of the Wheeler Basin were made in December 1933 and field work was carried on during 1934 under the supervision of Major Webb, with the assistance of junior archaeologists in the Social and Economic Research Division. A labor force, made available by the Civil Works Administration and the Federal Emergency Relief Administration, was utilized in the excavation of the sites. The Alabama Museum of Natural History has cooperated at all stages of the project.

The report is the second of a series drawn from achaeological studies conducted in areas to be flooded for reservoir purposes. The first of this series has appeared as Bulletin 118 of the Bureau of American Ethnology, Smithsonian Institution.

Very respectfully yours,

LAWRENCE L. DURISCH,
Chief, Social and Economic Research Division,
Tennessee Valley Authority.

MR. EARLE S. DRAPER, *Director,*
Department of Regional Planning Studies,
Tennessee Valley Authority,
Knoxville, Tenn.

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AN ARCHAEOLOGICAL SURVEY OF THE WHEELER BASIN IN NORTHERN ALABAMA

By William S. Webb

INTRODUCTION

To those familiar with the habits of prehistoric peoples of southeastern United States the archaeological importance of the areas immediately adjacent to large streams is well known. Prehistoric man used the rivers for his highways. From the rivers he easily obtained food in great variety. On the banks of streams he built his camps, which, as population increased, sometimes grew into large villages. The fertile soil of the river valley encouraged primitive agriculture. In particular the growing of corn not only increased the food supply but, because it could be stored from season to season, very greatly reduced the chance of famine. Thus population in prehistoric times became relatively dense along the river courses. Such, evidently, was the prehistory of the Tennessee River. Along this great stream diverse Indian tribes in historic times are known to have occupied different sections of its valley. In many cases this occupancy had been long continued and in some cases had evidently extended down from a remote period of prehistory. Because of travel, trade, and the migrations of peoples up and down this great stream, its prehistoric sites became numerous and its archaeological record became complicated.

With the announcement by the Tennessee Valley Authority of plans for the erection of the General Joe Wheeler Dam at the upper end of Wilson Lake and the consequent flooding of a large section of the Tennessee River in northern Alabama, the desirability of an archaeological survey of this basin was apparent.

It had been pointed out as early as August 1933 by interested citizens that the building of dams and the consequent flooding of large areas of the Tennessee River Valley would destroy for all time the records of prehistory unless some plan of conservation could be undertaken. The opinion was expressed by a number of influential citizens and scientific organizations that the destruction of these sites, even if done in the public interest, could not be justified without some attempt being made to conserve the prehistoric record by an archaeological survey. However, it was not until plans were announced for the establishment late in 1933 of the Civil Works Administration that means were available for undertaking this survey.

In December 1933 a conference was held in Knoxville which was attended by representatives of the Tennessee Valley Authority, the University of Tennessee, and the University of Alabama. Mr. Neil M. Judd, Curator of Archaeology of the Smithsonian Institution, was invited to act as a consultant to the group. As the result of tentative plans and suggestions made at this conference, the work of the survey of the Wheeler Basin was begun late in December 1933, under the direction of Mr. Burnam S. Colburn, of the Tennessee Valley Authority staff. The author took charge of this survey as supervising archaeologist for the Tennessee Valley Authority, January 6, 1934. The field work continued with the use of Civil Works Administration labor until its demobilization in March 1934; later with various interruptions until July 1, 1934, by the use of Federal Emergency Relief Administration labor.

During this survey some 19 sites were carefully excavated and much material and information was recovered. A large part of the body of this report consists of a detailed description of the findings on these sites. These are discussed in geographical order going upstream.

After the close of the field work in the basin, all of the artifacts recovered were deposited with the Alabama Museum at the University of Alabama, where the author had opportunity to study and photograph them, in order that this additional information might supplement the large body of information obtained by field exploration. All skeletal material recovered was shipped to the department of anthropology and archaeology of the University of Kentucky for restoration, study, and report.

Sample potsherds from all sites were sent to the Ceramic Repository at the University of Michigan for study and report. The results of these studies are included in this report as a valuable addition to the information recovered by the survey.

During the World War the United States Government erected Wilson Dam on the Tennessee River near Florence, Ala., at a point known as Muscle Shoals. About 2 miles above Florence a group of small islands rose above the normal level of the stream, which had at this point such a considerable fall as to cause a series of rapids. This section of the river was known as "Little Muscle Shoals," and similar rapids some 5 miles farther up the river were known as "Big Muscle Shoals." These rapids were produced in this section of the river by a fall of some 134 feet in a distance of 37 miles.

The present spelling of the name of this section of the Tennessee River—Muscle Shoals—was used as early as 1806 in a treaty made by our Government with the Cherokee Nation, and that designation has been repeated in many official documents of later date. It has been claimed by some that the original designation was "Mussel Shoals," given because of the great number and variety of mussels to be found at these shoals. While in 1892 the United States Geographic Board decided that in view of former official usage, the name should remain Muscle Shoals, yet much interest to archaeologists attaches to the term "Mussel Shoals." Because of the very great abundance of mussels, this region in prehistoric times became very important, since its food was inexhaustible. This fact undoubtedly attracted many and varied tribes to settle upon the islands and river banks in this region. The large shell mounds and extensive midden deposits containing much shell demonstrate how important to aboriginal life was this abundant food supply. The reason for this abundance of mussels was explained by Ortmann,[1] who stated:

> The Mussel Shoals have received their name from the immense number of species and individuals of fresh-water mussels (Naiades) which used to be found at this locality. There is no other place upon the whole wide world which could be compared with this one in this respect. The cause for this unusual development of Naiad life of this region is found in the fact that here two old faunas, in themselves exceptionally rich, came together; the so called "Cumberlandian" belonging to the upper Cumberland and upper Tennessee Rivers, and that of the "Interior Basin" (Ohioan fauna). I have tried to complete a list of Naiades known from Mussel Shoals, and have found that about 80 different species and varieties are represented, belonging to 29 genera.
>
> The beautiful islands and the general features of the river itself are gone as well as a large portion of the fauna, chiefly that of the mussels, which depend on the ecological conditions once presented here. A dam has been built, the Wilson Dam, just at the lower end of the "Little Mussel Shoals" and about 2 miles above the town of Florence, pounding the river for many miles, and drowning entirely the "Little" and the "Big Mussel Shoals," beginning about 4 or 5 miles farther above. With the destruction of conditions favorable for Naiad life the Naiades have also been destroyed.

With the building of Wilson Dam a lake having an area of 23 square miles was created. Wilson Lake flooded the Tennessee River for some 17 miles above the dam, making the water 97 feet deep at the dam face. The normal level of the lake is approximately at the 500-foot contour.

The Wheeler Dam is located near the upper end of Wilson Lake about 15 miles above the Wilson Dam. It will flood some 80 miles of the Tennessee River, producing a lake having an area of about 100 square miles and raising the level of the water impounded to about the 550-foot contour. This dam has been named in honor of Gen. Joseph Wheeler, a celebrated Confederate general, later an officer in the United States Army in the Spanish American War, whose home and family estate was immediately adjacent to the site of this dam. The lake thus created will extend some 80 miles up the Tennessee River to Buck Island above Guntersville, and will inundate land in Lauderdale, Lawrence, Limestone, Morgan, Madison, and Marshall Counties, Ala. The location of this lake in northern Alabama is shown on map 1.

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[1] Ortmann, A. E. Science (New Series), vol. LX, No. 1564, p. 566, December 16, 1924.

In the summer of 1932 the Alabama Museum, under the direction of Dr. Walter B. Jones, and with funds provided by the National Research Council, conducted a very thorough preliminary archaeological survey of this region. Hundreds of sites were located, surface collections were obtained from many sites, detailed information as to ownership was obtained and recorded, and permission to make further examination of sites was secured in many cases. This large body of information was put at the disposal of the author by the Alabama Museum, and has formed the basis for the map shown as map 2. On this map are located prehistoric sites to the number of 237, distributed as follows: Lawrence County, 26; Limestone County, 36; Lauderdale County, 11; Morgan County, 50; Madison County, 37; and Marshall County, 77. The numbers given to the individual sites on this map correspond to the numbers assigned by the Alabama Museum, which numbers serially the sites in each county in Alabama.

In the plans of this archaeological survey of Wheeler Basin it was contemplated that, by making use of the information acquired by the Alabama Museum, a selection of important key sites for special investigation could be made.

It was determined that these key sites should be as carefully examined as time and labor permitted. Every effort was made to preserve all material recovered and the recovery and preservation of all information was a major objective. To accomplish these objectives, a system of field notes, similar to that devised by the Alabama Museum, was instituted and by careful application of the best modern techniques, including drawing and photography, an attempt was made to produce a complete, accurate, and permanent record of all important findings during this survey.

The list of sites which were investigated is as follows:

Site	Owner and location
Lu^{o} 86 and Lu^{o} 85	The late John L. Hughston, Florence, Ala.
Ct^{v} 17	Col. Thompson Pride, Pride Station, Ala.
Ct^{v} 24, Ct^{v} 19, Ct^{f} 25, and Ct^{f} 29	Misses Sally and Mary Garner, Barton, Ala.
La^{o} 37, La^{o} 14, La^{o} 13, La^{o} 16, and La^{o} 40.	Mr. Hood Harris, Courtland, Ala.
Li^{v} 36	Mr. Nel Gilbert, Athens, Ala.
Mg^{v} 2	Mr. Joe W. Burleson, Hartselle, Ala.
Ma^{o} 1, Ma^{o} 2, Ma^{o} 3, Ma^{o} 4, and Ma^{o} 5.	Messrs. Robert E. Spragins, Huntsville, and J. D. Atkinson, Birmingham, Ala.

COUNTY
SIT FERRY
65
66

ARCHAEOLOGICAL SURVEY
OF WHEELER BASIN, ALABAMA
SCALE
1 0 1 2
MILES
LEGEND
VILLAGE SITE
MOUND
WORK SHOP
CAVE
LAUDERDALE COUNTY
ROGERSVILLE
LIMESTONE COUNTY
MADISON COUNTY
MARSHALL COUNTY
LAWRENCE COUNTY
MORGAN COUNTY
COLBERT COUNTY
LAUDERDALE COUNTY
LIMESTONE COUNTY
LAWRENCE COUNTY
MORGAN COUNTY
MADISON COUNTY
MARSHALL COUNTY
GEN. JOE WHEELER DAM
TENNESSEE RIVER
RUDDER ISLAND
KNIGHT ISLAND
MASON ISLAND
BYRDS ISLAND
SWAN CREEK
SWAN LAKE
BEAVER LAKE
GOOSE POND
MOORESVILLE
DECATUR
BIG NANCE CREEK
SPRING CREEK
BIG HEAD SPRING
ELK RIVER
FIRST CREEK
TRIANA
GREEN GROVE
LEMAN FERRY
PLYMOUTH ROCK LANDING
LEWIS BLUFF LANDING
JOHNSON'S LANDING
BLUFF CITY
FLINT RIVER
TAYLORSVILLE
WHITESBURG BRIDGE
CHINN'S STOVE
BLACK'S LANDING
CLARKSDALE LANDING
FEARNS QUARTER
HENRY ISLAND
PINE ISLAND
COLUMBUS CITY LANDING
GUNTERSVILLE
555
X SEE XX ABOVE X

U. S. GOVERNMENT PRINTING OFFICE: 1938—O-80738

ACKNOWLEDGMENTS

To the owners of sites just mentioned it is a pleasure to express appreciation for the privilege of conducting excavations on their land. Mr. Frank R. King, of Tuscumbia, Ala., assisted in securing permission to excavate sites in Colbert County, and Mr. John G. Sanderson, of Courtland, Ala., assisted in location of sites and gave generous support to the preliminary survey and cooperated with the field program. To these gentlemen our thanks are due. To Misses Sally and Mary Garner, of Barton, Ala., appreciation is expressed for the privilege of camping on their land during field operations.

Grateful acknowledgment is made to the National Research Council, which through Dr. Albert W. Poffenberger, chairman of the Division of Anthropology and Psychology, made a grant in aid of this research. This fund, by supplementing the Federal funds, made it possible to so coordinate the expenditures of the Civil Works Administration for labor and the Tennessee Valley Authority fund for administration as to obtain greatest efficiency. The immediate availability of this fund greatly expedited the organization of field work.

To the Alabama Museum of Natural History, under the able direction of Dr. Walter B. Jones, our profound gratitude is expressed for great assistance and numerous courtesies. Among the many ways in which the Alabama Museum has contributed to the success of this survey may be mentioned in particular:

(1) The execution of the preliminary survey of the region in the summer of 1933 and the compilation of a large body of data relative to the prehistoric sites in the basin. All this information and material was put at the disposal of the author.

(2) During the field work the Alabama Museum loaned much field equipment necessary in the conduct of the work.

(3) After the close of the field work the author was given every facility of the Alabama Museum for a period of 6 weeks in which to catalog, study, and photograph the material recovered. During this period many members of the staff gave of their time and rendered valuable assistance in compiling this report.

(4) Dr. Jones has prepared for publication herein the article on geology of the Wheeler Basin, and also a paper on the occurrence of materials other than native to the valley. These papers prepared by Dr. Jones constitute an important addition to this report.

These and many other services rendered by the Alabama Museum constituted a large contribution to the success of this survey.

The assistance of Dr. Carl E. Guthe, chairman of the Committee on State Archaeological Surveys, of the National Research Council, and Mr. Neil M. Judd, curator of archaeology of the National Museum, is greatly appreciated. These gentlemen gave generously of their

time and advice in locating a competent supervisory staff and in making plans for the initiation of the survey.

To Dr. W. D. Funkhouser, dean of the graduate school and professor of anthropology, of the University of Kentucky, thanks are due for maknig a study of the osteological material recovered from Wheeler Basin. The results of this study are included as a valuable addition to this report.

Acknowledgment is made to Dr. James B. Griffin, of the University of Michigan, for his valuable contribution to this report. Dr. Griffin has made a thorough study of the potsherds recovered from this basin and has added much to the knowledge of prehistoric ceramics of the region.

The successful completion of this survey conducted under many physical difficulties incident to weather and flood conditions in the Tennessee River, by the use of unskilled labor—and that a constantly shifting personnel—required careful administration and close supervision. To Mr. David De Jarnette, of the Alabama Museum, who was given temporary leave to become district supervisor of the archaeological survey of Wheeler Basin, much credit is due for his able organization of the field work and efficient supervision of all excavations. Except for his ability to direct large bodies of men, often widely scattered, to instruct them in proper technique, and to develop in them some understanding of the problems of archaeological conservation, this survey would have fallen far short of the measure of success attained.

At the close of field work of this survey, while the author had opportunity for the study of the material recovered and deposited at the Alabama Museum, he was ably assisted by Mr. De Jarnette, who made the first draft of the map of the basin, shown as map 2, and who also rendered many other valuable services.

During the field explorations Mr. De Jarnette was assisted by a group of 12 young men designated as field party supervisors. These young men were selected from the various universities of the country because of their previous training and interest in archaeology and allied sciences. They proved very efficient in handling many difficult problems. The following list of field party supervisors shows their home addresess and the sites in this basin on which each worked.

Name	Address	Site
Robert M. Adams	Chicago, Ill	Lu^{o} 86, 85, 90.
Eliot Davis	Boston, Mass	Ct^{v} 17, 19, 24, 25.
Kenneth B. Disher	Cambridge, Mass	Ma^{o} 4, 5.
James Russell Foster	Springfield, Ky	Ct^{v} 17, 19, 24, 25; La^{o} 37, 13, 16.
Bennett T. Gale	Charlotte, Mich	Ct^{v} 17, 19, 24, 25; La^{o} 14, 16; Ma^{o} 4.
D. W. Lockard	Chicago, Ill	Li^{v} 36.
Horace Miner	Lexington, Ky	Ct^{v} 17, 19, 24, 25; La^{o} 16; La^{c} 40; Li^{v} 36.
Robert D. Morrison	Chicago, Ill	Mg^{v} 2.
J. J. Renger	University, Ala	Ct^{v} 17, 19, 24, 25.
Alden B. Stevens	Waterloo, Iowa	Mg^{v} 2.
Sidney Thomas	Cambridge, Mass	Preliminary survey; La^{o} 13, 14, 16.
James W. White, Jr	Montgomery, Ala	Li^{v} 36.

NOTE ON METHOD OF DESIGNATION OF COORDINATES IN FIELD EXCAVATION IN THIS SURVEY

In this survey a uniform method of staking off sites was used in all excavation. From a superficial inspection of a site the approximate line of initial trenching was determined. Along this line and just outside of the area to be excavated a "base line" was staked off in 5-foot intervals. Perpendicular to this line a median line was staked off in 5-foot intervals. This central line was designated as the zero (0) line, and its intersection with the base line as 0.0. The 5-foot squares on the base line to the right of the central zero line were designated 0,R5–0,R10, etc., and to the left of the central line 0,L5–0,L10, etc. Lines parallel to the base line were designated as the 5-, 10-, 15-foot lines, so that point 25,R10 indicates a point 10 feet to the right and 25 feet beyond the point 0.0.

All 5-foot square blocks were designated by the coordinates of their corner nearest to the point 0.0 on the base line.

All maps of sites show the cardinal direction and the orientation of the base line with the magnetic north. It is thus possible on the plan drawing of any site to superpose a grid system of cross lines corresponding exactly to the original staking of the mound at the time of excavation. This would show the correct geography of every feature.

GEOLOGY OF THE TENNESSEE VALLEY REGION OF ALABAMA, WITH NOTES ON THE TOPOGRAPHIC FEATURES OF THE AREA, AND THE EFFECT OF GEOLOGY AND TOPOGRAPHY UPON ABORIGINAL OCCUPATION[2]

By Walter B. Jones
State Geologist of Alabama

Introduction

Because of the prominence of the aboriginal occupation of the Tennessee Valley region,[3] it is most interesting to note the influence of the geology and resultant topography of the area upon that occupation. As a matter of fact these two subjects could be coordinated into one so far as the aborigines were concerned. The writer had not realized the full import of geology and human occupation until the completion of the systematic archaeological survey of the region. Perhaps this connection between geology and aboriginal occupation had been noted before, and was well known to many observers. However, it is now certain to the writer that those areas of Alabama which were the heaviest populated during aboriginal times were those regions in which the geology afforded the very best of living conditions for its human occupation.

Geology

The geological formations exposed in the Tennessee Valley range from Cambro-Ordovician beds, which outcrop in the valley itself throughout the extent of Jackson County, and as far as Guntersville in Marshall County, where the course of the river swerves from southwest to north of west; to Cretaceous deposits at the Mississippi line. Over the greater part of the region the beds are flat lying, or with a very slight dip southward and westward. Wherever present, this dip is scarcely more than 25 feet to the mile. However, in the Bridgeport-Guntersville portion of the valley the beds are steeply dipping to almost vertical. There are several undulating waves, usually perpendicular to the northeast-southwest trend of folding in the Appalachian system, but these irregularities have little or no effect upon the subject under discussion. However, the thickness and composition of the beds exposed in the area really do have a most vital effect upon human occupation. These formations may be listed as follows:

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[2] Published by permission of the Geological Survey of Alabama.

[3] This term is used throughout this paper to mean that part of the Tennessee Valley region within the limits of the State of Alabama.

Age	Formation	Thickness (feet)	Characteristics
Cretaceous	Tuscaloosa	200	Sand, gravel, and clays.
Unconformity			
Pennsylvanian	Pottsville	300	Sandstone, shale, clay, and coal.
Mississippian	Pennington	50	Variegated shales, mostly red and brown.
	Bangor	500	Massive limestone, blue to gray, cherty.
	Hartselle	225	Coarse to medium grained sandstone, blue to yellow to brown.
	Gasper	75–130	Limestone, altering to shale in western portion.
	Bethel	20	Massive, coarse-grained sandstone.
	St. Genevieve	100	Limestone, changing to marl in western portion.
	Tuscumbia (Warsaw and St. Louis).	300	Cherty limestone.
	Lauderdale	225	Chert to cherty limestone.
Unconformity			
Mississippian or Devonian.	Chattanooga	0–40	Black shale.
Unconformity			
Silurian	Red Mountain	200	Red ore, variegated shales, limestone.
Unconformity			
Ordovician	Newala	800	Massive bedded limestone.
	Longview	500	Limestone, cherty in places.
Cambrian or Ordovician.	Chepultepec	2, 000	Chert to cherty dolomite.
	Copper Ridge	1, 100	Do.

No lower rocks exposed.

For the purpose of this paper it would not be deemed necessary to describe these formations in greater detail than the description already given in the stratigraphic column. However, there are some features of the formations which have a direct bearing upon aboriginal occupation which might be discussed more fully. The coarse gravel beds in many parts of the Tuscaloosa formation have provided the aboriginal flint worker with a splendid source of supply of pebble hammers.

Undoubtedly the Pennington formation provided the pottery makers with at least some of their clays. Bodies of clay weathering out of the Bangor, Gasper, St. Genevieve, and Tuscumbia formations likely supplied the bulk of the clays used in the manufacture of pottery during aboriginal days, as well as providing raw materials for clay products at the present time.

The source of flint used in projectile points, spear heads, knives, and other implements, was from the cherty portions of Bangor and Tuscumbia formations, and from the Lauderdale chert itself. Even in the portion of the valley from Guntersville to Bridgeport, where there are thousands of feet of cherts exposed, the aborigines preferred manufacturing their implements from the nodules of chert occurring in the Bangor limestone, outcropping near the top of the mountains on either side of the valley.

The Lauderdale chert is highly significant and very important, in that the resistance of this formation to erosion gives rise to the great area of shallow water, called "Mussel Shoals" on the old maps, where the aborigines were able to secure all sorts of foods in abundance. That these foods were utilized to the maximum degree is attested by the great shell mounds and refuse heaps of Lauderdale, Lawrence, and Colbert Counties. The very fact that Lauderdale chert did not erode readily further provided a large number of islands, which are to this day very fertile, and which undoubtedly furnished the aborigines with a delightful and convenient home, and a sense of security which they could not have on the mainland. Needless to say, all of the islands were occupied at one time or another. Seven-mile Island, west of Florence, has 21 sites which can be identified at the present time.

The significance of the Red Mountain formation is largely embodied in the supply of red paint which the natives secured from its outcrops.

A large number of villages were built upon the rich and fertile soil resulting from the weathering of the Mississippian limestones. From the archaeological survey, it would appear that many villages were so located as to take full advantage of the improved soils of certain areas, particularly in Madison, Morgan, and Limestone Counties. Undoubtedly the small streams which traversed these counties in great number teemed with fish and their banks sheltered an abundance of wild life upon which the aborigines depended so heavily for their supply of meat and clothing. That these smaller streams did not escape the notice of those who planned and executed the aboriginal occupation is proven by the large number of settlements in those areas far removed from the great water courses. Indeed, many settlements were made around large limestone springs exuding from both the Bangor and Tuscumbia limestone formations.

Topography

The topographic features of the Tennessee Valley may be separated into eight divisions, as follows:

1. *Sand Mountain.*—This is a rather high plateau, averaging perhaps 1,500 feet above sea level, with some 300 feet of Coal Measures shales and sandstones forming the caprock. This topographic feature is bordered on the northwest by the Sequatchie Valley.

2. *Sequatchie Valley.*—Is a sharply folded and highly faulted area, some 6 miles wide, through which the Tennessee River flows. One of the principal features of this division is the line of rounded hills of chert extending throughout the valley from Guntersville to the Tennessee line.

3. *Cumberland outliers.*—This division comprises a number of mountains extending from the Sequatchie Valley as far westward as Monte Sano. These mountains are about the same height as Sand Mountain and are capped by the Coal Measures formation. This region includes a number of small valleys and coves and some very fertile land, particularly in the stream deltas. It is in this region that the aborigines had their finest opportunity to obtain the most desirable chert or flint for their projectile points. The large percentage of points manufactured from blue flint from the Bangor limestone is sufficient evidence that they utilized this source of supply to the fullest degree.

4. *The Moulton-Russellville Valley.*—Extending from Hartselle in Morgan County westward to the Mississippi line. This valley is very narrow in its eastern portion and widens out to perhaps 18 or 20 miles in the western portion. To the south is Sand Mountain and to the north Tuscumbia Mountain. The valley is very fertile and was heavily populated during various phases of aboriginal occupation. For the most part, it is underlain by Bangor limestone, and naturally the soil is generally fertile. For agricultural tribes this valley must have been an ideal situation. There is an abundance of good water, and many of the streams are sufficiently large to have supplied both fish and game in quantity.

5. *Tuscumbia Mountain.*—This feature extends from Decatur to the Mississippi line and formed more of a barrier than any useful purpose during the human occupation of the region. Even today it

is rather difficult to build suitable roads across this very prominent topographic feature. It is much lower than Sand Mountain to the south and is composed largely of the massive Hartselle sandstone above, and the Tuscumbia limestone along the northern slopes. Certainly the Hartselle sandstone provided an abundance of stones for grinding maize, as well as whetrocks for the finishing of objects and implements of stone. The northern slopes of the mountains carry an abundance of blue to gray and yellow flint, which was considerably utilized in the manufacture of chipped objects.

6. *The Red Lands.*—This feature comprises a rather large area in Madison and Limestone Counties and smaller areas in Lawrence and Lauderdale Counties. The general topography is comprised of low, rolling hills, with occasional mountains, particularly in the eastern portion of the region. This division contains the most fertile land and a variety of materials which were most useful to the aborigines.

7. *The Tennessee River and its flood plain.*—This feature comprised an area scarcely more than 6 miles wide at its widest point, but naturally it is of the greatest importance. All of the islands are included, as well as flood plains, ox-bow lakes, and the like. Naturally soil is very fertile, and the proximity of these great agricultural areas to the fish and game of the river and its tributaries made the region a most acceptable one from the standpoint of all human occupation. It was one of the first areas in Alabama to be settled by our own pioneers. Indeed this strip of land furnished the aborigines with everything that could be expected, if not everything that could be desired. Many caves in the limestone ledges along the margins of the flood plain were occupied, some of them for long periods of time.

8. *The Barrens.*—This region is largely confined to the northern portion of Lauderdale County, with a few outliers in the northern part of Limestone County. The region is one of very cherty soil, rolling hills, and scrub timber. There was little aboriginal occupation of the area, except on such water courses as Cypress, Shoal, and Blue Water Creeks. Even on those streams there were more temporary hunting camps than permanent villages.

OCCUPATION

As a general rule the principal villages or settlements, with or without mounds, were on level ground immediately adjacent to streams or lakes. Such places often have an amazing amount of kitchen midden material in one or more portions of such settlements. A typical example is a spot on Tick Island where refuse reaches a depth of more than 8 feet for an area of nearly 2 acres. Other examples are the shell mounds, which are composed of shells, both univalve and bivalve, animal bones, stones, pebbles, flint chips, fashioned or broken objects, potsherds, fish remains, charcoal, and occasional human burials. Mounds of this type are often as much as 300 feet wide, 600 feet long, and 15 or 20 feet high. Such deposits have 60,000 to 100,000 cubic yards of material, essentially all the left-overs from primitive kitchens.

It is likely that the involuntary builders of such refuse heaps lived largely off of fish, shellfish, and game. Naturally such encampments would be on or near the banks of flowing streams. Other villages, depending upon agricultural products as well as wild life, might or might not be found along the streams. Such settlements were often located upon good soil, with little attention to convenient supplies of fish and game. However, it is possible that such areas were occupied only during the crop season. Many such places have one or more mounds, usually of sand or sandy loam, with little or no admixture of debris. In the areas of general flood-plain camps, flint workshops are quite commonly found on the hills above the villages. From the evidence still remaining from chips and broken flint, much work must have been done at many of these sites. Evidently the native preferred to block out his objects into blanks or partially chipped implements before transporting them to his abode. The hills furnished ideal spots for raw material on which to work. Flint nodules are still abundant in such places.

It is interesting to note that huntsmen, idlers, and treasure seekers have destroyed or rendered intangible the evidence contained in caves along the Valley. Because of the fact that these caves are carved from limestone, either by the river or by solution of ground water, they are seldom dry except during dry seasons. It would not be expected that such places would give up textiles and other materials that are found in perfectly dry caves, but soil undisturbed by our civilization would provide an important source of information regarding both the occupants and the period of occupation. Sedimentation in such places can be worked out accurately where water accumulates periodically. The writer sifted about 10 cubic yards of dirt from a small cave in Colbert County, in the hope that some small piece of textile or perishable material may have survived the treasure hunters, but to no avail.

It is unlikely that the archaeological survey, which was done with moderate care, resulted in the listing of more than half of the villages in the area. Much of the region is still covered by timber and vegetation, making it difficult to discover any signs of aboriginal occupation other than mounds or shell banks. Likewise, the streams have covered many sites with sediment, since flood waters reach higher stages than formerly, because of deforestation and its resultant quicker run-off. Unfortunately there is little record of the sites covered by the waters of Lake Wilson. An expedition was sent into the area for the purpose of studying its cultures, but the activities of the party were not at all confined to the area to be flooded. This was little short of tragic, for the other work could be done at any time, but it serves as an excellent example.

At all events, the aboriginal occupation of the Valley was much greater than it appears at present. However, the prevailing sites and conditions of occupation can be taken as an accurate cross section.

It is thought to be within the scope of reason that a geologist might express an opinion as to the possible routes for the migrations of aboriginal peoples into the region. The invariable location of the largest villages upon or near the banks of streams suggests water transportation. On account of the unusual course of the Tennessee River, such routes of travel could only have been from the north, either from the headwaters or the mouth. Without giving any consideration to the affinities of Valley tribes to other cultures, it would be expected that the major portion of the Valley peoples would be closely related to cultures occupying areas readily accessible to the Tennessee River and its tributaries. This statement is made freely, because of the highly apparent difficulty of land travel from the south or east. Sand and Tuscumbia Mountains would most certainly have formed effective barriers for any except small bands of wanderers. The only feasible route for land travel would have been from the headwaters of the Coosa River, through northwest Georgia, to the Tennessee River at Chattanooga. There is no more rugged country in the southern Appalachians than that separating the various tributaries of the Warrior and the Tennessee.

MATERIALS OTHER THAN NATIVE TO THE VALLEY

The aborigines of the Tennessee Valley region used a variety of materials which do not occur in that area. Most important among these materials is greenstone, which is found in villages and mounds alike, as artifacts buried with the dead, and as objects, fragments, and unworked masses associated with camp-site debris. Soapstone (steatite) was fashioned into cooking vessels, pipes, and the like. Native copper objects and ornaments are met with frequently, particularly in the low truncated conical mounds. Marine shells are occasionally found in cemeteries. Objects and fragments of various igneous and metamorphic rocks are infrequently found. Galena (lead sulphide) is widely distributed throughout the Valley, especially in the low sand mounds. All of these materials have been brought in from other regions. Each will be discussed separately.

GREENSTONE

This is a metamorphic rock, rather soft and fine grained, susceptible of taking a very good polish. Very little is known about the original source of this material, although it is widely distributed throughout the Valley, in mounds, cemeteries, and villages of all types and ages. Greenstone was in common use by the aborigines, mostly for objects of a useful or ceremonial nature. Axes, celts, and spades range in size from 1 to 24 inches in length, and from less than one-half inch to several inches in thickness. The material in the long spades or agricultural tools is usually schistose, and gray-green in color. In these there are frequently thin bands or streaks of a darker material, which is dark green to almost black. In spite of the wide distribution and diffusion of greenstone, there is a rather striking uniformity in the color and texture of the material.

Little has been published on the subject. Tuomey [4] called it "trap dykes." S. J. Lloyd [5] thinks it corresponds with "greywache" of the older geologists. T. N. McVay [5] identified some as "clinochlore." Gunter Glass [5] compared a number of samples of Hillabee schist and greenstone artifacts, and noted the great similarity. The Hillabee formation is a chlorite schist, green to gray in color, schistose to massive, and usually fine-grained. The beds occupy a narrow belt extending from Clanton in Chilton County northeastward through Coosa, Clay, and Cleburne Counties. The Coosa River runs through the belt at a point a few miles east of Clanton. The Tallapoosa and Little Tallapoosa cut through it in Cleburne County. The rest of the belt is about halfway between these river systems. The average width of the belt is about 1.5 miles, while the maximum is about 4 miles, in the southwestern portion of Clay County. Even though the outcrop of the Hillabee is narrow, there was plenty of material available, and, furthermore, it was readily accessible.

It is apparent that other formations in the Piedmont area in other States are similar to the Hillabee and could have furnished greenstone. The wide use of the material makes it evident that there were many sources of supply. Unfortunately no greenstone quarries attributable to the aborigines have been observed. However, it is the writer's opinion that the lack of positive evidence does not detract from the accuracy of the statement that the Alabama source of greenstone was the Hillabee schist.

No suggestion can be made as to the routes of travel by which the aborigines of the Valley reached the source of supply, or even whether the supply came from Alabama or elsewhere in the Piedmont plateau. There is little question about the identity of that source of supply, and that is the object of this paper.

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[4] Tuomey, Michael, Geology of Alabama, 1850. Glossary.

[5] Personal communication.

SOAPSTONE (STEATITE)

This material occurs abundantly in various parts of the crystalline area in Alabama, particularly in Chilton, Tallapoosa, and Chambers Counties. Seldom are the beds massive, usually occurring more in the form of talc (soapstone) schists. In this account the term "soapstone" means those beds of steatite, serpentinic or talcose rocks which are sufficiently soft and massive to be used for the manufacture of artifacts by the aborigines.

Fragments of vessels made of this material are widespread, though seldom abundant, in the Tennessee Valley. In addition to its use in the manufacture of culinary vessels, such as pots and bowls, the latter up to 18 inches in diameter, the aborigines also used soapstone extensively for pipes. The soft and tough nature of the material made it very well adapted for the latter purpose, as is well proven by the size and elaborate design of some of the pipes which have been found.

Because of the near coincidence of Tuomey's early work as State geologist and the actual Indian occupation of the soapstone region, his pen pictures of aboriginal quarrying are more accurate than could be written at the present time. They are as follows:[6]

> North of the falls the rocks become talcose, and on a little stream, called Coon Creek, beds of hornblende and soapstone occur. In a hollow, near the creek, a bed of soapstone of great thickness is found. This seems to have been well known to the Indians, who resorted to the spot for the purpose of manufacturing culinary utensils. Excavations of considerable extent were made in the best portions of the rock and the sides of the excavations are curiously pitted where the vessels have been cut out. It appears to have been their practice to inscribe on the rock the circumference of the pot or bowl to be cut out, and then to excavate around it until sufficient depth was attained, after which the mass was split off and finished. Occasionally, when failure in splitting off the mass ensued, pieces remain attached to the rock. Everywhere the impression of the bottom of the vessel is left on the face of the quarry. The rock is calcareous, effervescing with acid. Crystals of pyrites are abundant, but no other minerals, excepting actynolite and talc, are found here.
>
> These Indian excavations have deceived many inexperienced persons, who supposed that they were made for the precious metals. The soapstone of this locality extends across the county into Chambers, and at intervals throughout this extent it is perforated by such excavations. This is the locality which excited so much interest as the Tallapoosa Silver Mine.
>
> From Fitzpatrick's to Dudleyville the rocks become slaty; the village stands upon a bed of gneiss. Beyond the village two shafts were sunk in search of

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[6] Tuomey, Michael. Geology of Alabama, 2d Report, 1858 (written about 1854), pp. 46, 63–64.

> copper. One was induced by a vein of cellular quartz, that once contained iron pyrites; and the other is in a trap dyke, on the side of which was cut a vein of asbestos and talc, 1 foot thick. Parallel with these slates is a noble bed of soapstone, the strike of which is indicated by numerous Indian excavations.
>
> On the way to the Morgan Gold Mine, on Tallapoosa, a powerful trap dyke was examined, at Perry's Mill, and further on the soapstone is excavated, to a greater extent than I have seen elsewhere. These quarries must have been worked for ages. Numerous unfinished and broken pots and bowls were found here.
>
> Everywhere in the South, fragments of soapstone vessels are found with other Indian remains; but Alabama is the only State in which I have met with these excavations. It would appear that a considerable trade was carried on at these localities.

These statements were corroborated by Eugene A. Smith (State geologist, 1873–1927) in his field notes for October 14, 1874. Smith adds:

> This soapstone, which seems to be a soft serpentinic rock, light green and granular, is in beds striking NNE. and dipping 85° to ESE. Part of these strata are very thick and massive, showing no traces of stratification, save being enclosed between laminated beds of the same material. It is from the granular massive variety that the Indians seem to have worked out their utensils.

From the statements of these two close observers it is apparent that the objects were at least "roughed out" at the quarries, and either finished there or later at the villages. There is no evidence available as to whether the Valley tribes went to the quarries by land or by water. The relative abundance of the material in the Valley would make it obvious that trade alone could scarcely account for all of it. The Valley peoples must have both known of and visited the quarries of the Tallapoosa River area.

GALENA

Every section of Alabama has its legends of Indian "lead" mines. The followers of the mineral rods have worked tirelessly trying to locate these widely known but elusive sources of wealth. Old Indian maps have been purchased and followed. Indian signs have been read by the seers, and the information passed out slyly and usually for monetary consideration. Treasure seekers have dug ceaselessly. in the dead of night, only to see the great wealth disappear because some member of the party talked aloud, thus dissipating the treasure instantly and forever. Even the Indians from some reservations have returned under a most mysterious atmosphere, but not entirely secret one, to the lands of their fathers, lingered a while, and then disappeared. Invariably someone in the neighborhood would find a freshly made excavation showing unmistakable signs where the pot of gold had been removed. Such has ever been the case. Tuomey[7] reported as follows:

> The men with mineral rods have been industriously on the trail, and I must do them the justice to say that where they indicated the presence of mineral the excavation was neither expensive nor difficult. The last one I saw was in an Indian mound, on Village Creek, where the miners had reached within 1 foot of the vein.

Undoubtedly the cause of most of these legends has been the finding of the mineral galena (lead sulphide) in so many places throughout the State, but particularly in the Tennessee Valley. Here many mounds have given up dozens of pieces and chunks of galena aggregating hundreds of pounds. The majority of the masses show ground facets attributable only to human hands, which immediately withdraws the occurrence from any natural possibilities. Galena is not unknown in Alabama in its natural state, but it so happens that it is a fairly simple matter to determine accurately the original source of such mineral material. The Tennessee Valley galena came from the Joplin, Mo., district. Furthermore, the quantity which is found in the Tennessee Valley suggests that if our "sand mound" builders did not come from that area the source of supply was very well known and readily accessible to them. The occurrence, composition, and association of the Alabama deposits of galena are such that it could not be had in masses of over a few grams in weight. On the other hand, the large masses of pure galena found in the aboriginal sites fit so perfectly the Joplin occurrence that there is no doubt about the accuracy of that designation as the original source of supply. Just what routes of travel the material took before reaching its final resting place is unknown and beyond the purposes of this paper. The original source was unquestionably the Joplin district.

COPPER

Objects of native copper, mostly of a ceremonial nature, are met with frequently in the Tennessee Valley, especially in the low sand mounds where the copper is associated with galena. There is no copper in the area. There has been very little produced in Alabama, and that from carbonates and sulphides at Wood's Copper Mine in Tallapoosa County. There is no record of native copper at that mine. Ducktown, Tenn. (Copperhill), probably did not have a sufficient amount of native copper to have supplied the demands of the aboriginal craftsmen. There are no known instances of aboriginal smelting of copper ores. Thus we are left with one plausible source, the massive native copper deposits of the Keweenaw Peninsula,

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[7] Tuomey, Michael. Geology of Alabama, Geological Survey of Alabama, 1850, p. 43.

Michigan. Here there is a superabundance of this metal, ready to be hammered into any desired shape. The size and weight of some of the reel-shaped objects found in the Tennessee Valley is suggestive of an ample supply of copper, and it is the writer's opinion that Michigan was that source of supply.

Of course there were copper deposits in the western part of the United States and in Old Mexico. Likewise, there are deposits of galena in those areas. The galena is silver-bearing. That found in the Tennessee Valley is not, corresponding in that respect to the Joplin deposits. If the galena came from Joplin, it is reasonable to assume that the copper came from Michigan and not from the West and Southwest.

Marine Shells

As a contrast from the great quantities of fresh-water shell heaps piled up as refuse of villages, the occasional marine shells were treated more as ceremonial objects. Most of the marine shells are the large conch, *Fulgur* (*Busycon*) *perversum*, obviously brought up from the Gulf of Mexico. From the columella the aborigines manufactured beads, ear plugs, and pendants. Sections cut from the exterior of the shell were fashioned into pendants and gorgets, many of which were engraved in intricate and clever designs. Sometimes the whole shell, less columella, was interred with the burials, in the same way in which pottery, etc., was used. There seems to be little doubt about the Gulf of Mexico being the original source of the shells.

Igneous and Metamorphic Rocks

No single representative of this group except greenstone and soapstone is found in such quantity as to warrant a separate discussion. Objects and fragments, mostly found during the systematic archaeological survey, belong to the following:

Hornblende schist.
Quartzite.
Syenite.
Porphyritic granite.
Granite.
Basalt.
Biotite quartz schist.
Felsite.

Any or all of these rocks might have come from the Crystalline (Piedmont) area of eastern Alabama.

[End of article by Dr. Walter B. Jones.]

RECORD OF EXCAVATIONS OF SITES IN WHEELER BASIN

SITE Lu° 86

This site, a shell mound, is located on the land of Mrs. Walter Huston, in the southeastern section of Lauderdale County, Ala. Its position may be accurately noted by reference to the Rogersville quadrangle of the Alabama series of the United States Geological Survey maps.

It is situated on the northern flood plain of the Tennessee River, so close to the river that the canal which forms the entrance to Lock No. 1 was cut through the southwestern end of the mound. The site was noted by Moore[8] in his explorations of the Tennessee River, but no mention was made of any investigation on this site. It was a habitation shell mound, often called a midden, composed of accumulated debris and kitchen refuse. Its depth is due, in considerable part, to the large amount of mussel and univalve shells deposited during occupancy. A considerable depth of such deposit does not always indicate great age, since the small percentage of edible content of such food leads to a rapid accumulation of shells. Nevertheless, the depth of this deposit and the extent of the site indicate a considerable period of occupancy. The mound when investigated was nearly 350 feet long, 200 feet wide, and it stood about 13 feet above the flood plain at its highest point. The canal cuts through the southwestern portion of the mound, so that its original length must have been close to 400 feet. Moore gave its dimensions as 128 by 168 feet, but how these measurements were obtained is not apparent. A contour map of the mound showing the location of excavated area and test trenches Nos. 1 and 2 is presented in figure 1. Figure 2 is a plot of the excavated area.

The plain surrounding the mound is frequently subjected to floods from the river, especially since the construction of Wilson Dam. Shortly after the mound was surveyed and staked for exploration such a flood raised the water table to the edge of the mound, as shown in plate 1, *a*, and flooded all test pits. The absolute primary occupational level of the mound was found to be more than 1 foot deeper than the surrounding plain. At least a portion of this difference in depth represents deposits on the flood plain laid down since the construction of Wilson Dam.

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[8] Moore, C. B. Aboriginal sites on Tennessee River. Jour. of Academy of Natural Science of Philadelphia, 2d series, vol. xvi, pt. 2, Philadelphia, 1915, p. 254.

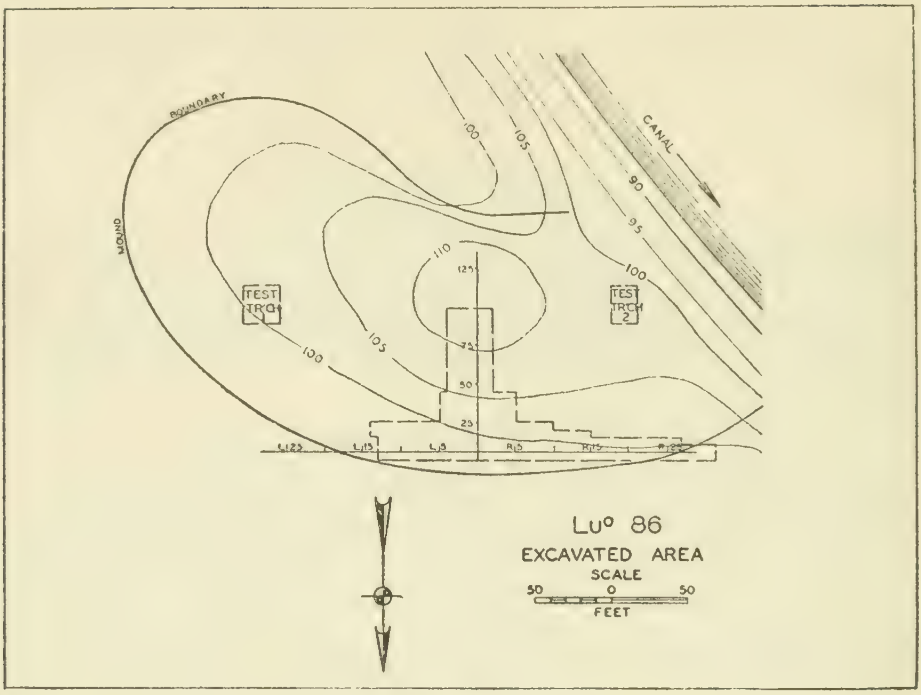
MOUND BOUNDARY
CANAL
90
95
100
105
110
125
75
50
25
TEST TRCH
TEST TRCH 2
L125
L15
R15
Lu° 86
EXCAVATED AREA
SCALE
50 0 50
FEET

Figure 1.

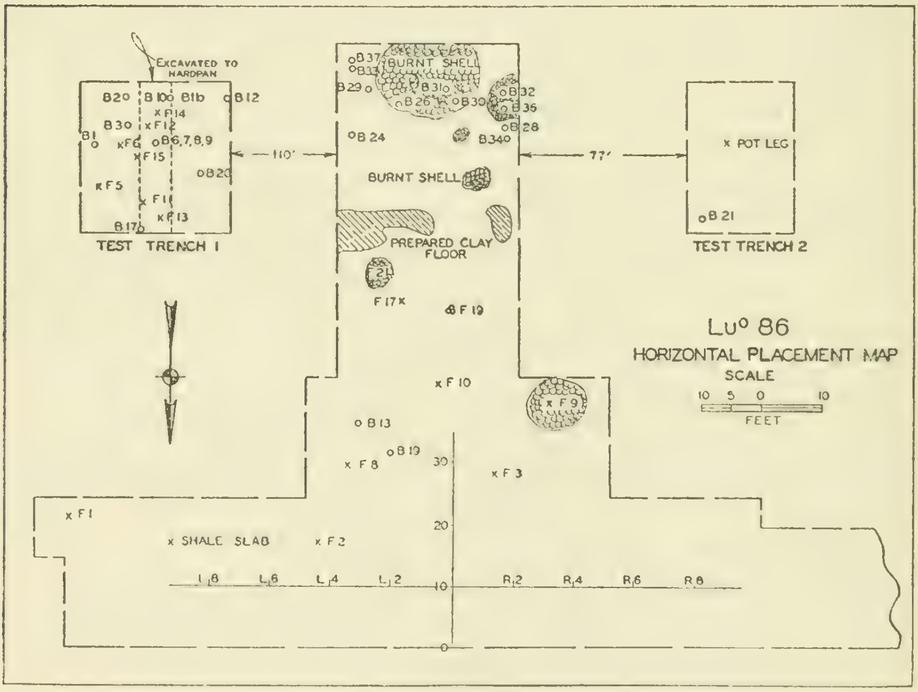
EXCAVATED TO HARDPAN
B2
B10
B1b
B12
F14
B3
F12
B1
F6
B6,7,8,9
F15
B20
F5
F11
F13
B17
TEST TRENCH 1
110'
B37
B33
BURNT SHELL
B29
B31
B26
B30
B32
B35
B28
B24
B34
BURNT SHELL
PREPARED CLAY FLOOR
21
F17
F19
77'
POT LEG
B21
TEST TRENCH 2
Lu° 86
HORIZONTAL PLACEMENT MAP
SCALE
10 5 0 10
FEET
F10
F9
B13
B19
F8
F3
30
20
10
0
F1
SHALE SLAB
F2
L8
L6
L4
L2
R2
R4
R6
R8

Figure 2.

PROCEDURE

When surveyed, the mound was staked in 5-foot squares, laid out from a base line along the longitudinal periphery of the mound. The base line served for a starting point for excavations. A temporary arbitrary base level was established above undisturbance because of the height of the water table. After the 15-foot row of stakes was reached, the water lowered, and it was possible to establish a new base level at the undisturbance. As the excavation proceeded and the profile became deeper, the available labor supply began to diminish. In order to be sure to reach the center of the mound and at least get a sample of the interior, the excavation was stepped down to a profile length of 120 feet, later to 50 feet, and finally to 30 feet, which was carried into the mound to a distance of 100 feet, about reaching the center of the mound, as shown in figure 2. Plate 2, *a*, *b*, show profiles of this main cut as it was being made into the mound.

Two test trenches were dug to undisturbance, at the two approximate poles of the mound axis, to a depth of about 10 feet. Besides these larger excavations, many small test pits were put down outside the mound periphery to seek possible evidence of occupancy as a village site.

At first three, and later two, running series of 5-foot squares were dug in 6-inch levels and all material separately tagged to enable a percentage graph to be worked out if possible. Dirt was carried away in wheelbarrows to enable a clean floor to be kept and a study of vertical profiles to be made (pl. 3, *a*, *b*).

It was apparent early in the investigation that the mound had once been much higher than at present, and that since its erection, due to its cultivation, there had been considerable erosion from the top and the spreading midden material on its sides. Even during its construction by accumulation there had been spreading and redeposit of material on the periphery. The first appearance of cultural material was a thin layer of refuse thrown along the outer edge of the midden as it accumulated. Over this, redeposited by the plow and natural agencies, there was a layer of cultural material, which had worked downward from the top of the mound. This upper layer completely disappeared at the 45-foot profile. The area of redeposit had a large amount of cultural material but no intact fire levels or association of implements. The profiles of the refuse area showed that the surface along the periphery was too steep for habitation. As soon as definite undisturbance was reached the boundary of the mound could be ascertained. The mound proper proved to have a considerable midden content other than shell, though it was essentially a shell mound.

No evidence was found of any post molds or other indications of structures on the mound, and no stratification line could be ascertained except within the area of redeposited material. The burials appeared in all cases to be intrusive for a few inches into the aboriginal level existing at the time of burial.

Faunal remains, other than shell, composed a large part of the mound content. The bones of deer were the most numerous but the bones of other animals were found, indicating fox, wolf, raccoon, opossum, squirrel, ground hog, dog, and turtle. There were many bones of birds, those of turkey being most numerous. These bones indicated a wide range in the use of waterfowls as food. Fishbones were plentiful and though small were well preserved. These showed the presence of gar, drum, and catfish.

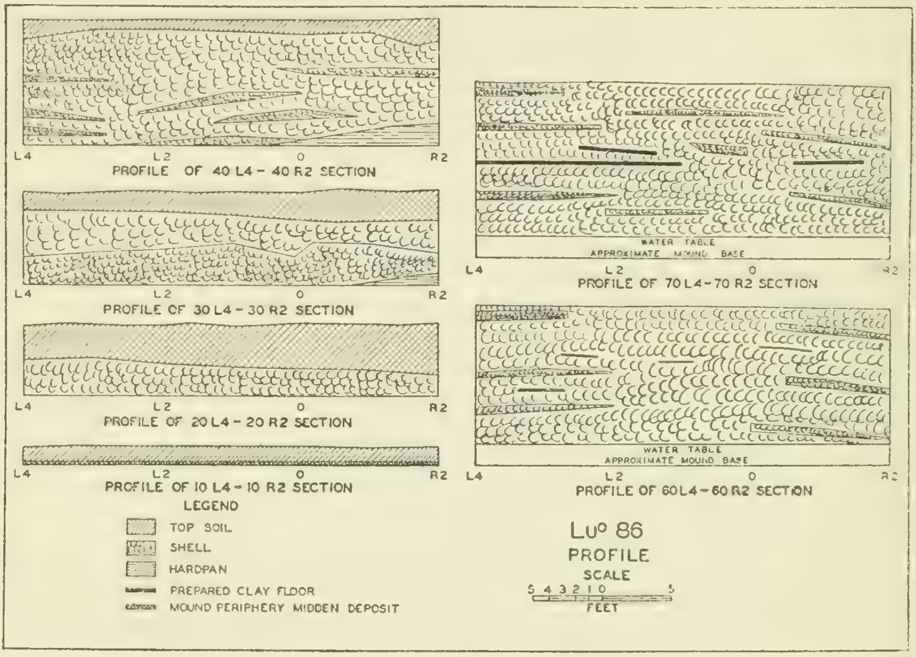
L4
L2
0
R2
PROFILE OF 40 L4 – 40 R2 SECTION
L4
L2
0
R2
PROFILE OF 30 L4 – 30 R2 SECTION
L4
L2
0
R2
PROFILE OF 20 L4 – 20 R2 SECTION
L4
L2
0
R2
PROFILE OF 10 L4 – 10 R2 SECTION
LEGEND
TOP SOIL
SHELL
HARDPAN
PREPARED CLAY FLOOR
MOUND PERIPHERY MIDDEN DEPOSIT
WATER TABLE
APPROXIMATE MOUND BASE
L4
L2
0
R2
PROFILE OF 70 L4 – 70 R2 SECTION
WATER TABLE
APPROXIMATE MOUND BASE
L4
L2
0
R2
PROFILE OF 60 L4 – 60 R2 SECTION
Lu° 86
PROFILE
SCALE
5 4 3 2 1 0 5
FEET

Figure 3.

There were no distinctive differences in the features and profiles found in the main cut and in the two test trenches. A study of the profiles revealed a generally uniform condition. All profiles in the mound proper had shell lenses irregularly disposed and interposed with loam containing a smaller percentage of shell, as shown in figures 3 and 4. These lenses were spread over considerable area, often 15 feet broad, but few were as much as 1 foot in thickness. This would seem to indicate that the occupants in this area had some form of habitation or shelter temporarily fixed on a certain area. The shell refuse was thrown out on the rubbish pile and accumulated in layers. If it were thrown outside the dwelling area it would finally result in raising the level outside the habitation. It appears that when this condition existed the habitation was moved to the higher portion of the area, and shell then began to be deposited over the old habitation site. Thus solid shell lenses appeared interposed with layers containing bone, charcoal, ashes, and the usual midden debris.

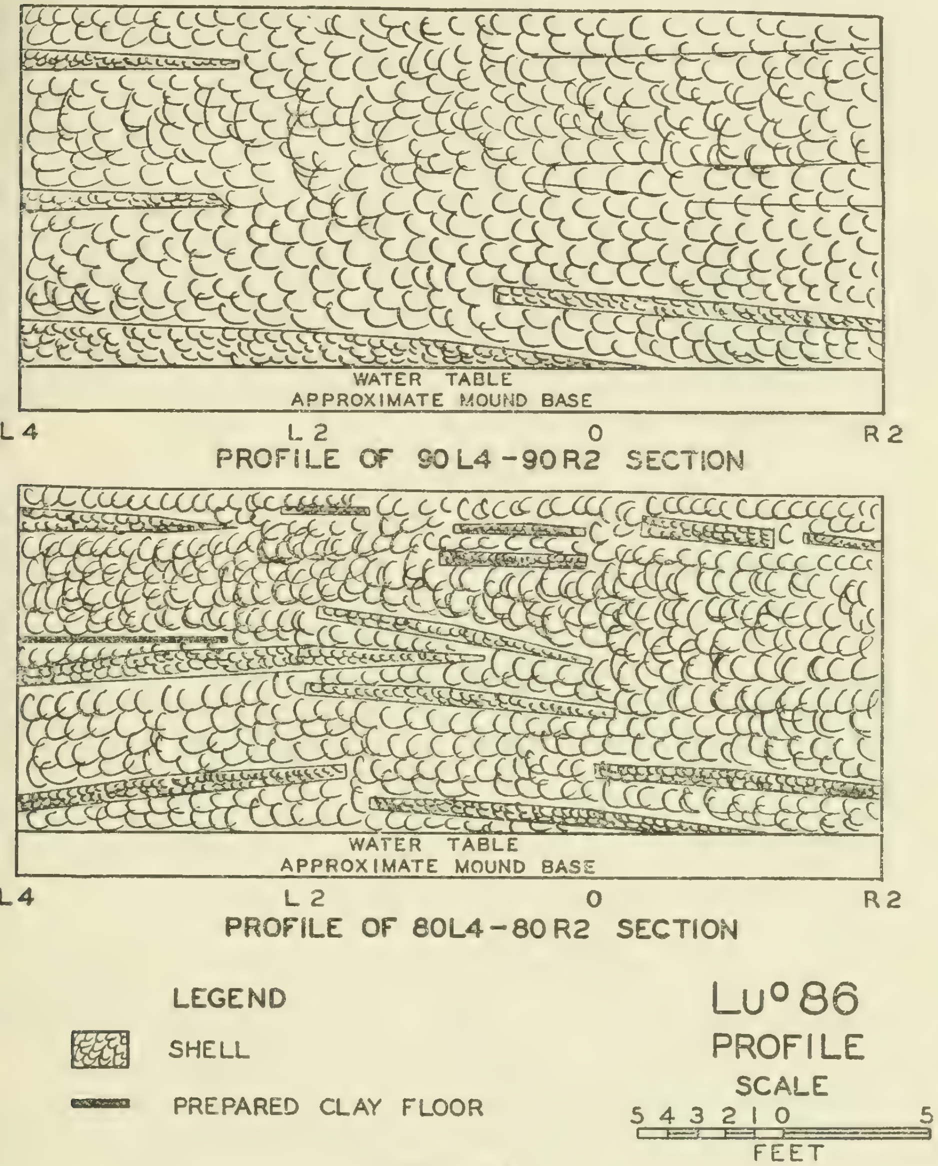
WATER TABLE
APPROXIMATE MOUND BASE
L 4
L 2
0
R 2
PROFILE OF 90 L4 - 90 R2 SECTION
WATER TABLE
APPROXIMATE MOUND BASE
L 4
L 2
0
R 2
PROFILE OF 80L4 - 80 R2 SECTION
LEGEND
SHELL
PREPARED CLAY FLOOR
Lu° 86
PROFILE
SCALE
5 4 3 2 1 0 5
FEET

FIGURE 4.

There were several remains of the clambakes found. Prepared clay floors were found in a number of instances. Charcoal hearth sites were frequently found and ranged all the way from 18 inches in diameter to several feet. Whenever there was a burned shell area, a charcoal area was usually found nearby. Besides the charcoal hearth sites there were a few burnt-clay fireplaces and several stone fireplaces, usually semicircular in shape. In one case a baked-clay fireplace was alongside a stone fireplace but 6 inches higher. Plate 4, *a*, shows a fireplace covered with fire-cracked stones and ashes. Plate 4, *b*, is another fireplace containing broken stones and a few broken flint blades. By the side of a burned shell area the "anvil" stone shown in plate 5, *a*, was found. A number of pits in this stone showed evidence of battering by percussion. Large limestone rocks were sometimes found associated with some of these charcoal hearths. They were seemingly intentionally placed in groups near the fire, as shown in plate 5, *b*.

The redeposited area was plainly indicated in the profiles and showed as a blackened section above the shells at the top layer. The sterile layer is clearly indicated in plate 2, *b*, to the left of the numbered stake just above the arbitrary base level. There seemed to have been no burials beneath this sterile line; however, the sterile layer was not visible to the excavators for most of the period of excavation, because the water table was too high.

BURIALS

In this excavation 36 skeletons were found. Of this number only 2, Nos. 34 and 35, were found as deep as 6 feet, and 2, Nos. 21 and 22, were at a depth of 3 feet. These were definitely intrusive as much as 12 to 18 inches. All of the remaining skeletons were within 2.5 feet of the surface, some being so close as to have suffered disturbance by the plow in the cultivation of the surface of this mound (pl. 1, *b*). Skeletons were numbered as found and are here briefly described in order.

Burial No. 1.—An adult male skeleton in poor state of preservation was found at a depth of 20 inches. The body was fully extended with the head to the north and the face to the west. Some of the bones were missing. There were no artifacts in association.

Burial No. 2.—An adult female skeleton in fair state of preservation was found at a depth of 22 inches. The skeleton was placed on its back with legs flexed in a vertical position. The body had been placed on a layer of earth with univalve shells intermixed.

Burials Nos. 3 and 4.—Two closely associated adult male skeletons, fairly well preserved, were found at a depth of 18 inches. Both were headless and may have been disturbed by the plow. These burials are shown in plate 6, *b*.

Burial No. 5.—A small child's skeleton, under 3 years of age, was found at a depth of 24 inches. Preservation very poor.

Burials Nos. 6, 7, 8, and 9.—These four burials were very closely associated and were buried about 8 inches deep. Burial No. 6 was placed on the back with legs flexed to the left side. The long bones were broken in many places and the skull was missing. Burial No. 7

was buried by the side of burial No. 6 but at a slightly higher level and had been badly disturbed by the plow. The skull was missing. Burial No. 8 was at the feet of burial No. 6 and at a slightly greater depth. The skull was present but slightly displaced. The long bones were broken, but all parts present and in a fair state of preservation. Burial No. 8 appeared to be an adult male which had been placed on the back with legs flexed. A well-made basal notched projectile point lay between this skeleton and burial No. 9. Burial No. 9 appeared to be a partially flexed adult female buried on the side. The upper portion of the skull had been cut away by plows. It was at the same depth and by the side of burial No. 8.

Burial No. 10.—This was a partially flexed adult female, found at a depth of 12 inches. The bones were badly broken and the head was crushed. The profile at this point clearly showed that at burial the body had been laid on what was then the top of the shell mound, on a bed of clean shell. There were no artifacts with this burial, which is shown in plate 7, *a*.

Burial No. 11.—An adult buried in a flexed position was found very near the present surface of the mound. The skull was crushed and the body badly disturbed. A portion of the skeleton was missing.

Burial No. 12.—This burial, an adult female, was found badly disturbed by the plow which had cut the skeleton in half, and rendered exact determination of placement impossible.

Burial No. 13.—At a depth of 12 inches was found a bundle burial, or deposit of long bones, together with tarsal and carpal bones, under a celt-shaped limestone. The long bones had been broken off at the joints and these ends were missing. There were no artifacts with this burial (pl. 6, *a*).

Burial No. 14.—This burial was composed of a few sections of the vertebral column, many broken bones, and bone chips, as shown in plate 7, *b*.

Burial No. 15.—This burial was an adult male found in very poor condition. The body had been closely flexed on the side. Tree roots had penetrated the skeleton and had assisted in decay of the bones.

Burial No. 16.—An incomplete bundle burial was found closely associated with burial No. 15. The skull was missing. This burial was 4 inches below the surface.

Burial No. 17.—At a depth of only 4 inches below the surface the burial of a young child was found. Due to poor preservation the placement was indeterminate.

Burial No. 18.—This burial was an adult female in a shallow grave in square 45P2. It was just outside of the wall of a discontinued portion of the trench and was revealed only in the pointing of the profile when it fell out of position. The skeleton was in a partially flexed position and there were no artifacts in association.

Burial No. 19.—This was a bundle burial at a depth of 3 inches. The bones were broken and in disorder in a close placement. Only a small portion of the skeleton could be found.

Burial No. 20.—At a depth of 20 inches below the surface was found the skeleton of a young male flexed and placed on its side. No artifacts were found in association.

Burial No. 21.—This burial was found in fair condition at a depth of 30 inches. The skull was crushed but the bones were fairly well preserved. This was the burial of a fully flexed adult female buried on the side, with face downward, as shown in plate 8, *a*. Associated with the burial were three bowls placed near the head of the skeleton. All were shell-tempered plain ware. Two of these were open bowls, one of which had a duck-head effigy, the head being turned inward. The third bowl was decorated with two handles, round in section, which rose above the vessel rim. This pot is shown in plate 16, *b*.

Burial No. 22.—In the immediate vicinity of burial No. 21 there was an infant, probably still-born.

Burial No. 23.—This was an adult male skeleton, found at a depth of 11 inches, in great disarray. The bones were badly broken and many were missing. It was impossible to ascertain placement of the body.

Burial No. 24.—This skeleton was found near the surface at a depth of not more than 9 inches. The bones were badly broken, but nearly all of the skeleton was present. It was a fully flexed burial, as shown in plate 8, *b*. Half of a large bivalve had been so placed as to hold the skull.

Burial No. 25.—This burial was indicated by the deposit of bones some 2 feet below the surface. These bones seemed to be a portion of the skeleton of an adolescent boy.

Burial No. 26.—An adult male extended in the flesh, lying on the back with face to the right, was found at a depth of 24 inches. Some red ochre was found at the left elbow and 12 small beads were at the knees. There were three copper spiral earrings in each ear, and stain indication seems to show that other smaller rings had completely disintegrated. A limestone pipe was found alongside the left femur. This was a bird-head effigy, possibly representing the eagle. A small bead or ball was held in the tip of its beak (pl. 17, *b*).

Burial No. 27.—An infant skeleton was found buried by the side of burial No. 26 but some 6 inches deeper. It did not appear to have been buried at the same time. The preservation was poor but the bones seemed to indicate an infant about 6 months old.

Burial No. 28.—This burial was an adult male found at a depth of 18 inches. It was fully flexed on the left side, as shown in plate 9, *a*. With this skeleton was found the carved bone scraper shown in plate 14, *b*. This carving represents a human head and face, possibly with arms, and a pendent spear point.

Burial No. 29.—This was an adult male buried fully extended on the back at a depth of 18 inches. The preservation was very good, as shown in plate 9, *b*. About the neck of the skeleton was a string of bone beads and in the ears copper spiral earrings. On the right breast a copper pin, bent to resemble a snake, was found (pl. 15, *b*). There was a deposit of red ochre just below the pelvis, and just inside the left elbow there was found the limestone pipe shown in the lower left corner of plate 14, *b*. This skull seemed to show artificial deformation when an infant.

Burial No. 30.—This was an adult female extended on the back with left arm doubled under, as shown in plate 10, *a*. Preservation of this skeleton was good and the skeleton was undisturbed, although it was within 6 inches of the surface. At the head was an open bowl with plain rim and four loop handles. The copper spiral earrings had caused the preservation of the ears of this skeleton, as shown in plate 17, *a*.

Burial No. 31.—This skeleton was a small adult, probably female, buried near burial No. 30, as shown in plate 10, *a*. The skeleton was disturbed and the skull was missing. The bones had the appearance of being much older than those of burial No. 30.

Burial No. 32.—At a depth of 12 inches was found the burial of an adult male fully extended on the back, as shown in plate 10, *b*. At the left of the feet was a large sherd, and next to the right fibula there was found a large conch-shell cup which had been carved. This is shown in plate 16, *a*.

Burial No. 33.—This was a bundle burial of an adult. It was placed near burial No. 29 and the bones had the same color as burial No. 31 but appeared older than the other skeleton at that level.

Burial No. 34.—This burial of an adult male, fully flexed, was found at a depth of 6 feet. The preservation was fair. The skull showed pronounced supraorbital ridges. The hands were under the head. A turkey leg bone was found near the head. This burial took place along with the accumulation of the midden and is earlier than those skeletons from the upper surface. It is probably coincident in time with the human bone chips found scattered through the midden.

Burial No. 35.—Located near burial No. 34 was a fully flexed adult at a depth of 6 feet. The preservation of the bones was very poor.

Burial No. 36.—This was an adult male fully extended on the back at a depth of 2 feet. The grave was intrusive for a depth of 12 inches. Near the head of this skeleton was a ball of red ochre and apart from it were two perforated animal ribs. Over the left shoulder were several pieces of braided cord which had been preserved and under the chin a number of copper tubular beads. These beads were made by rolling copper sheets which had been hammered quite thin. By the right side of the head was found the platform pipe shown in the lower right of plate 14, *b*.

As a summary of the disposition of the bodies, it may be said that of the 36 burials recognized in this excavation there were 10 fully extended burials, including 2 infants, 13 flexed skeletons, and 6 bundle burials. It would seem that in the early stages of the mound accumulation methods of disposal other than burial were commonly in practice. The mound proper contained many chips of human bone and broken fragments, scattered in the debris throughout the mass of shell at all depths. As pointed out, the burials were, with four exceptions, not deeper than 30 inches. Two were 3 feet deep and two nearly 6 feet deep. All burials seemed to have been only slightly intruded into the surface existing at the time of burial.

Artifacts

The percentage determinations of sherds and artifacts by 6-inch levels in the chosen running 5-foot squares proved to be inconclusive because of the nature and manner of the deposits on this site.

It was obvious that in the early history of this midden occupancy no pottery had been used, or at least no sherds were found in the midden. In the central portion of the mound proper only three sherds were found below the 11-foot level, 6.5 feet above the mound base; while some 21 sherds were cataloged from between the 21-foot level and the 26-foot level, within 3 feet of the surface. The three sherds found below the 11-foot level had stamped decorations and were as to temper and texture exactly similar to other sherds in the surface layer. Their finding is not considered significant because, from the nature of the material in this mound, it was very difficult to maintain vertical profiles and clean floors. Objects were constantly falling from the top of the cut to lower levels, and the walls of all cuts were always insecure by reason of the high water-table level. A number of slides of some magnitude did occur, and since only unskilled workmen were actually digging, it would be expected that at least a few objects which had fallen from a higher elevation would be "discovered" and reported from a lower level.

It may be said with confidence that the interior portion of the mound 6.5 feet above the original floor contained no potsherds, while sherds were numerous in the upper layers, particularly in the upper 2.5 feet. This region had been most disturbed and erosion had redeposited much of the top layer about the periphery. Thus sherds were numerous in the top layers and throughout the redeposited material on the edge of the mound.

Most of these sherds are broken into quite small fragments and many have very rounded edges, indicating that they have been subjected to considerable wear since fracture. This condition is so noticeable that if it were not a matter of record one could deduce that most of this pottery was gathered from near the surface where it had been subjected to mechanical disturbance and to the effects of weather for some time. Sample sherds are shown in plate 11, *a*, *b*. The figures show a variety of decorations, which include cord-impressed, incised, stamped, and punctate. Some of the designs seem to have been impressed by trailing a comb, which produced parallel lines of uniform depth. Sherds showing a row of raised external protuberances below the rim and parallel to it were fairly numerous. This decoration was produced by a blunt punch used from the inside of the vessel to raise the outside surface. Sometimes, in the smaller vessels, the imprint of this tool was filled with matrix and smoothed over. In some of the larger vessels the holes remained as an interior decoration. Most of the incised and punctate sherds are shell tempered.

STONE ARTIFACTS

Within the main body of the shell midden deposit there was a large quantity of flint material—chips, cores, large flakes (some showing secondary chipping), broken spear and projectile points, and rejects of a variety of forms. All of this indicates great activity here in the manufacture of flint implements. This shop work seems to have been carried on simultaneously with the accumulation of shell over the whole period of the mound construction. This flint refuse was found from top to bottom, mingled with the shell.

Projectile points, of the form shown in plate 12, *b*, were most numerous in that portion of the mound which had been eroded and redistributed. In the major undisturbed portion of the mound the refuse indicated the manufacture of sharp-pointed, broad, flat, stemless blades. These were generally from 4.5 to 6 inches long and many were 2 inches broad. The base was square, as shown in the two upper rows of plate 12, *a*. These broken spear points, after being rejected on the site, had laid long undisturbed in the shell and midden matrix. As a result, the underside of every one was heavily encrusted with "travertine," as shown in the central row of plate 12, *a*. Together with these thin, broad, sharp-pointed spears of flint manufacture on this site, knives and crude scrapers were also produced in abundance by the same methods. Selected specimens are shown in plate 13, *a*. There can be no doubt that the manufacture of these implements took place on the shell midden, since quantities of the tools required in their manufacture were recovered and flint flakes and rejects were numerous. In particular, percussion fracture was in use. A number of convenient river pebbles used as hammerstones were found encrusted with travertine. Associated with these were many elk-horn drifts. These are shown in the upper row of plate 13, *b*, and were made from a section of elk horn from 3.5 to 4.5 inches long and 1 to 1.75 inches in diameter. They were carefully cut and ground to a convex blunt chisel-shaped end. Many of them show abrasion by hammering. It would appear that percussion fracture, both direct and indirect, was thus used apparently to the exclusion of pressure fracture in forming the crude implements shown in plate 13, *a*, which present no evidence of secondary chipping.

The most common bone implement occurring on this site was a splinter of the cannon bone of the deer, varying in length from 2.5 to 4 inches, and sharpened at both ends. A number of these are shown in plate 13, *b*. It is believed they may have been projectile points. Their manner of manufacture was apparent. The central section of the cannon bone was cut out, leaving the ends as rejects in the midden. Many such ends were found cut as shown in plate 13, *b*. The central section was then split and by grinding they were pointed more symmetrically at each end. One end, believed to be the distal end of a projectile, was reduced to a very sharp, heavy, blunt point. The proximal end, less carefully worked, was reduced to a long sloping point. In every case the interior concave surface of the bone was retained as a longitudinal groove. The suggestion that these pointed bone fragments were projectile points is strengthened by finding many of them fractured and battered at the heavy end as if by impact. These bone points, together with horn drifts and hammerstones in close association with broken and rejected large spear points, definitely suggests a spear-throwing people. This is further confirmed by finding one bone atlatl, shown in the center of the lower row of plate 14, *b*. The large amount of fish bones along with animal bones in the midden suggests that these spears may have been used in fishing. It would seem from the large mass of flint rejects and broken spear points that in the early stages of this midden occupancy the spear was much more important than the projectile point, and by inference the spear thrower more used than the bow. The finding of only one spear thrower of bone may be explained by the assumption that others were made of wood and have disappeared by decay. Two similar atlatls were reported by Fowke [9] from a shell heap in Colbert County, Ala. This mound was located on the Ten-

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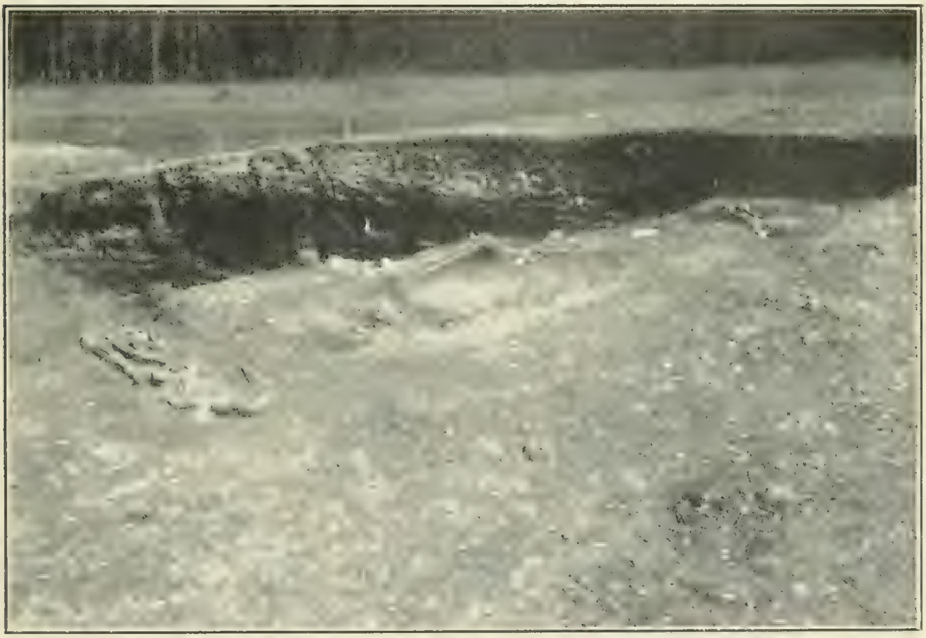
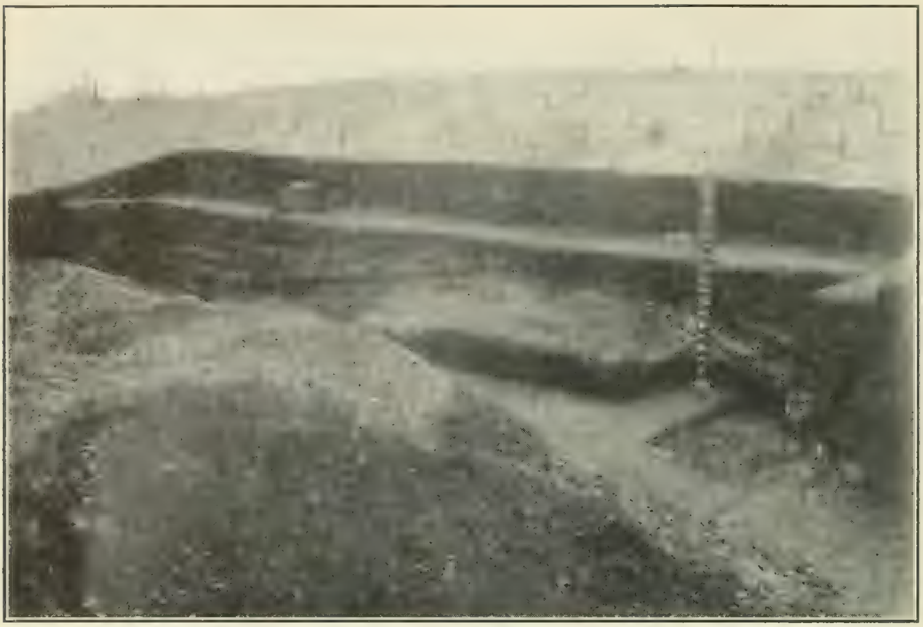
[9] Fowke, Gerard. Archeological Investigations—II. Forty-fourth Ann. Rept. Bur. Amer. Ethn., Washington, 1928, pl. 73.

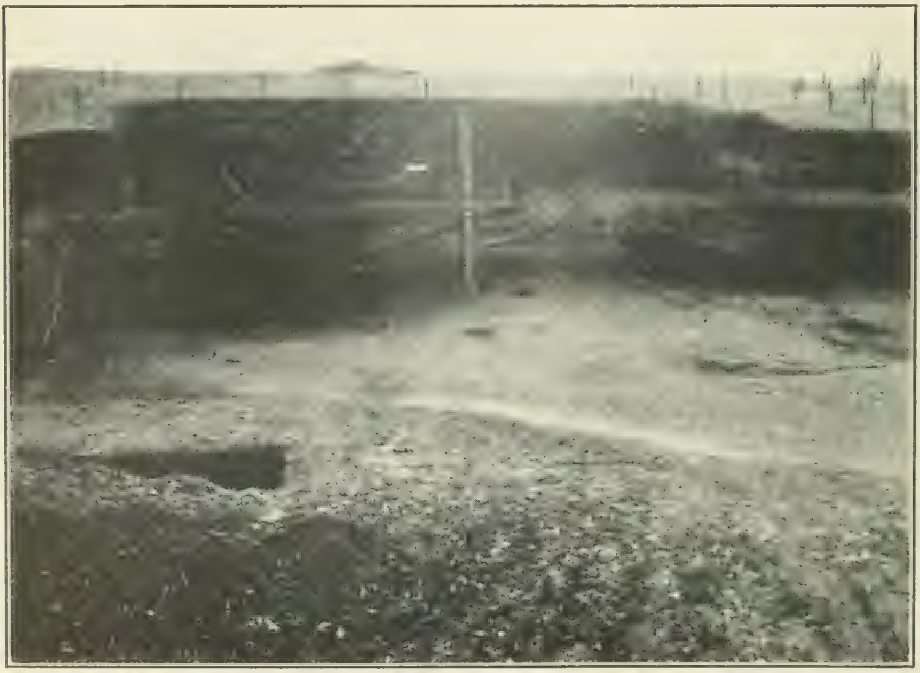
a, Backwater from Tennessee River at flood stage reached edge of mound, Site Lu° 86.



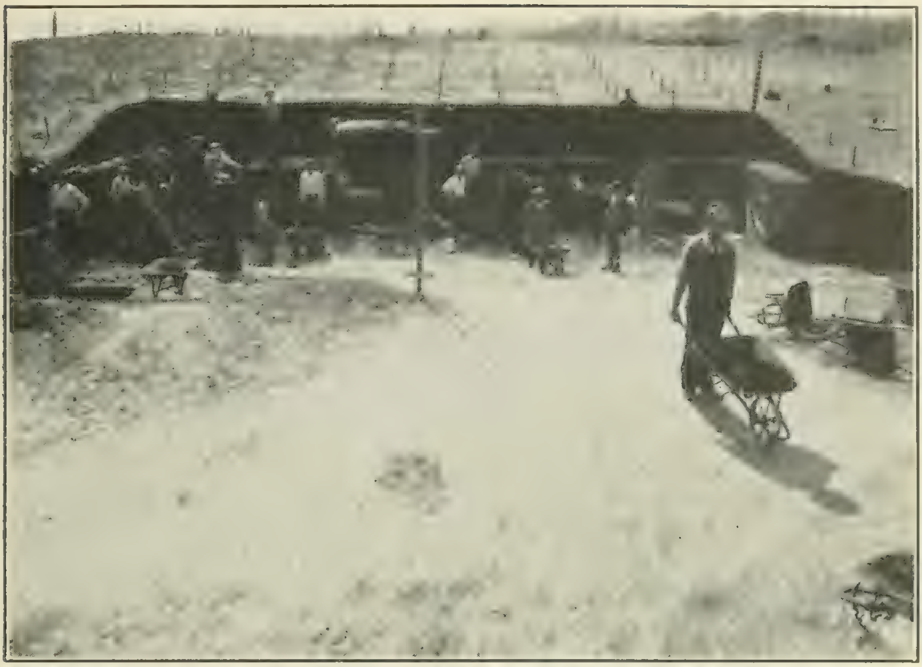
b, Group of burials in upper portion of mound, Site Lu° 86.



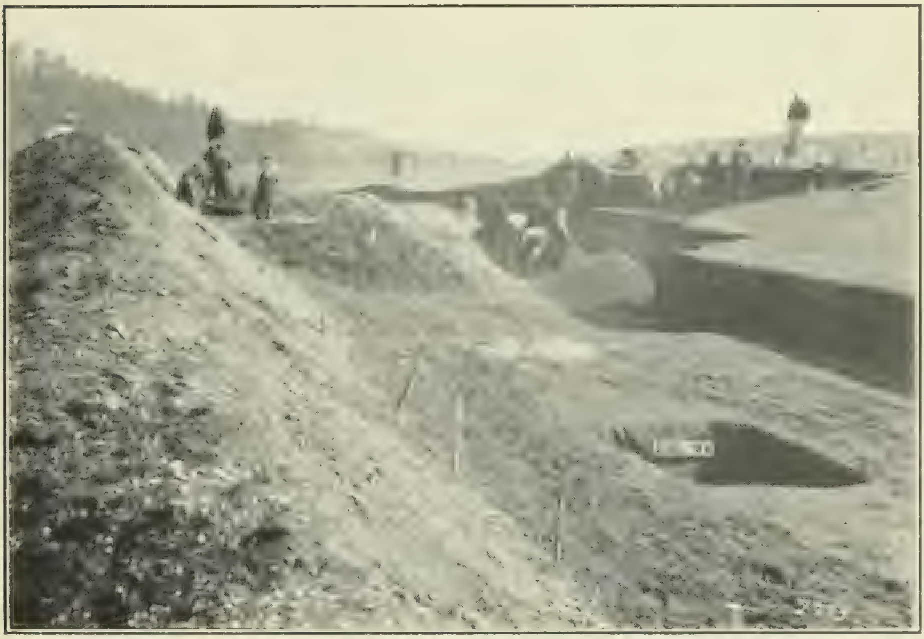
a, Profile of main cut showing depth of 9 feet, Site Lu° 86.



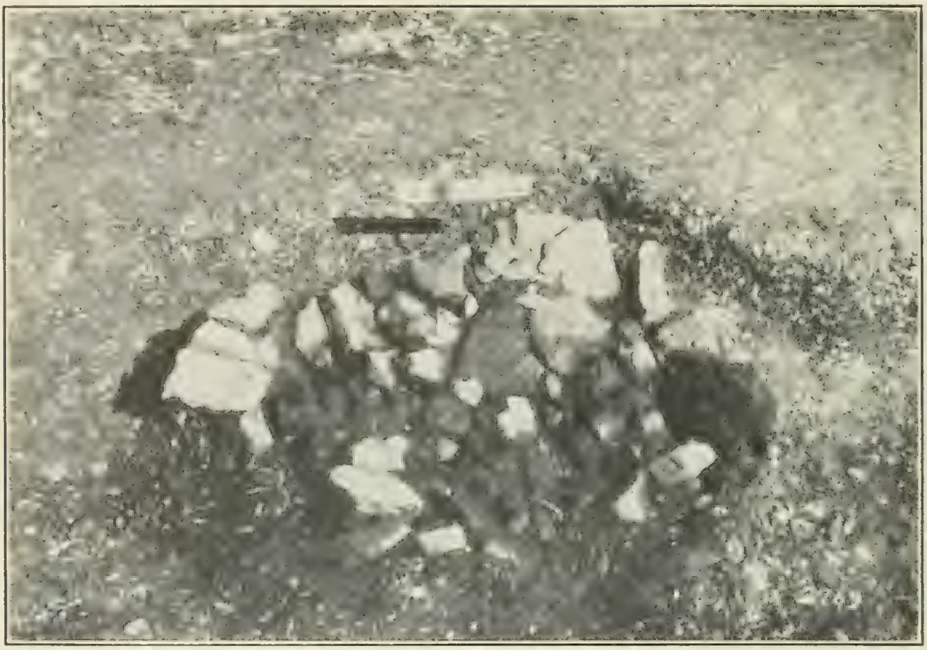
b, Profile of main cut showing depth of 10.5 feet, Site Lu° 86.



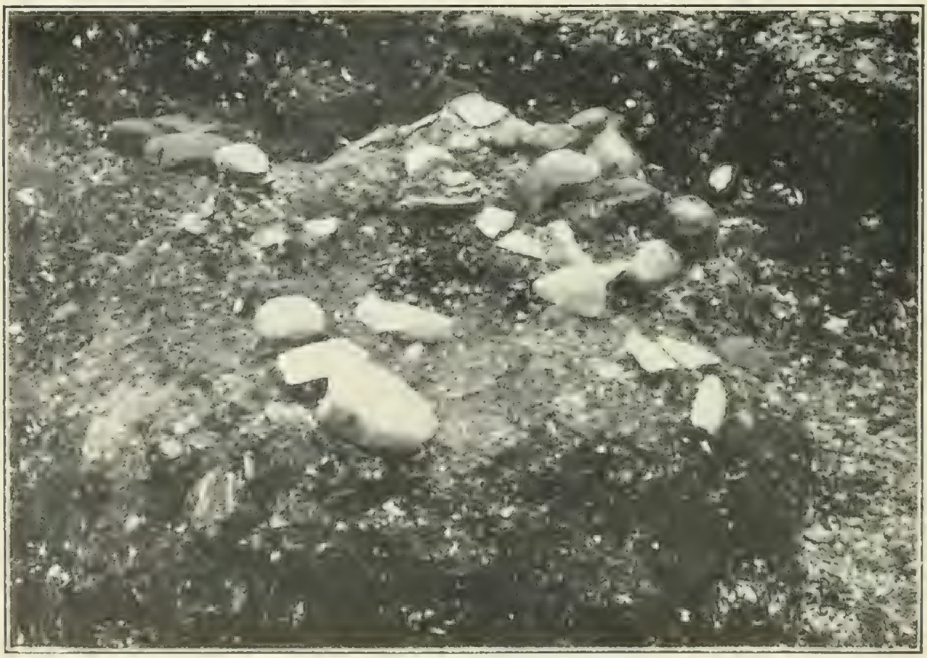
a, Method of removal of earth, Site Lu° 86.



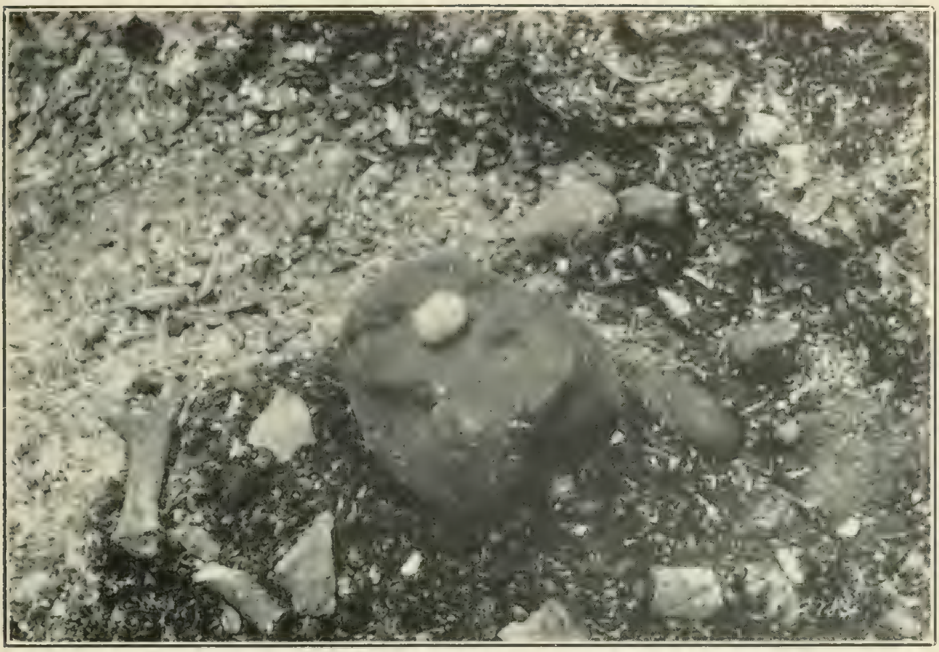
b, Crew at work on main trench, Site Lu° 86.



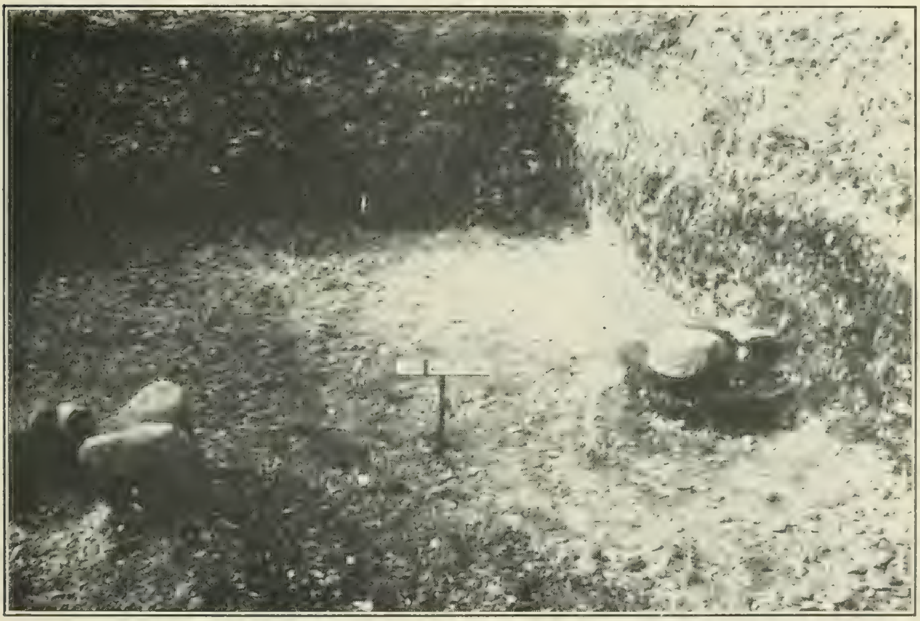
a, Stone-covered fire basin, Site Lu° 86.



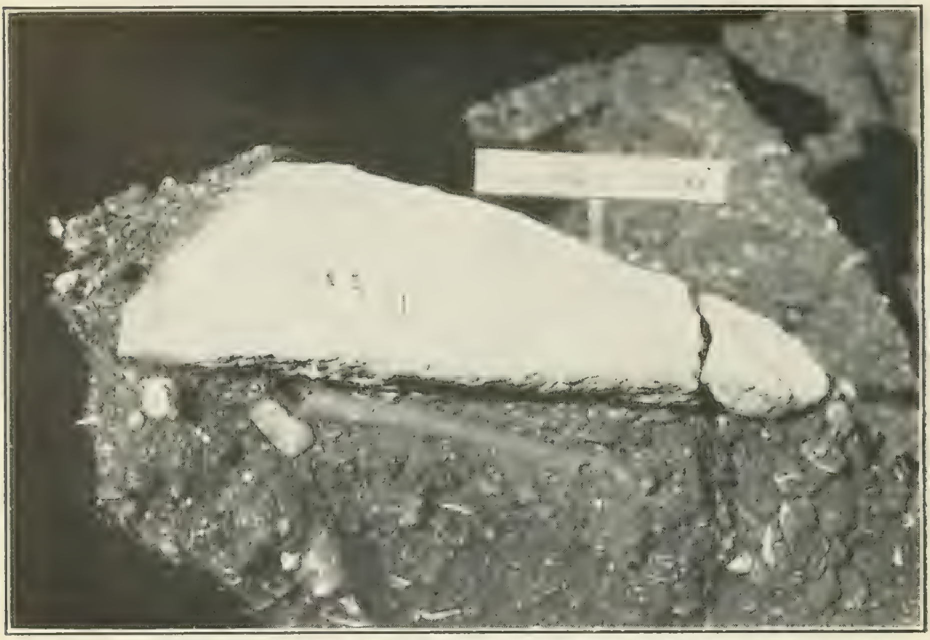
b, Fire basin with broken spear points, Site Lu° 86.



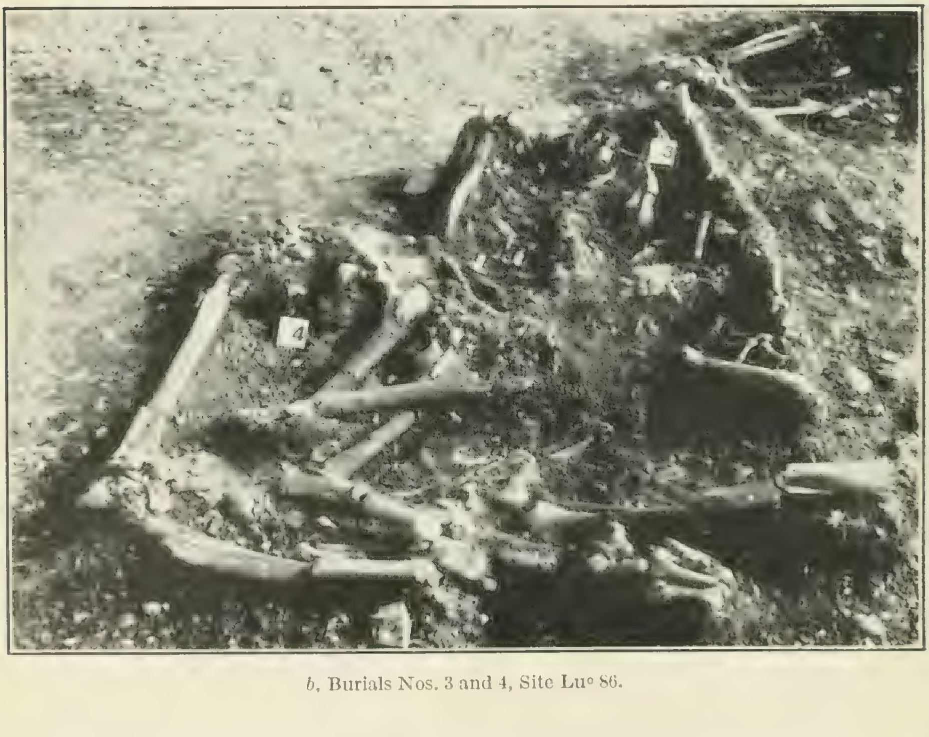
a, Anvil stone near hearth, Site Lu° 86.



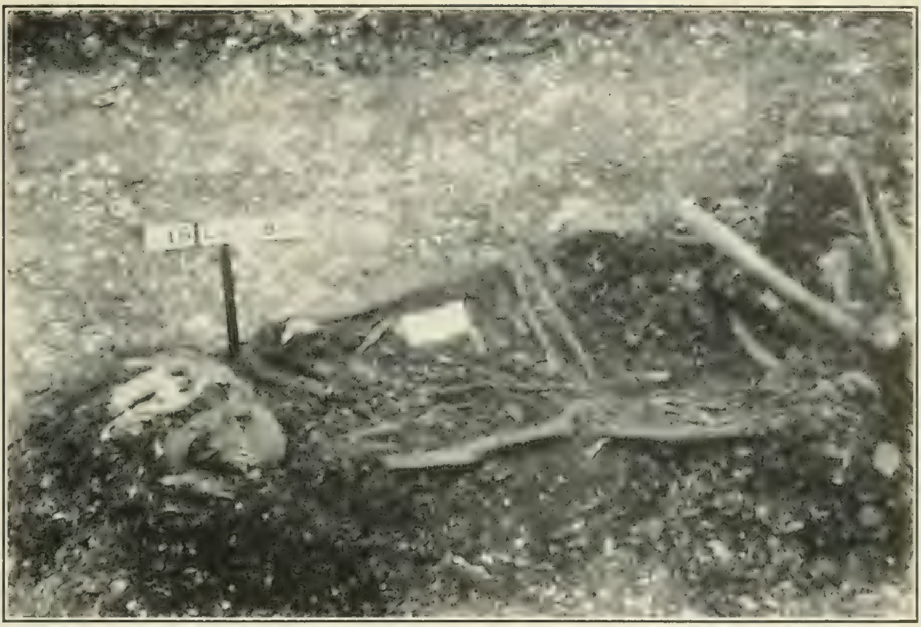
b, Stones arranged about hearth, Site Lu° 86.



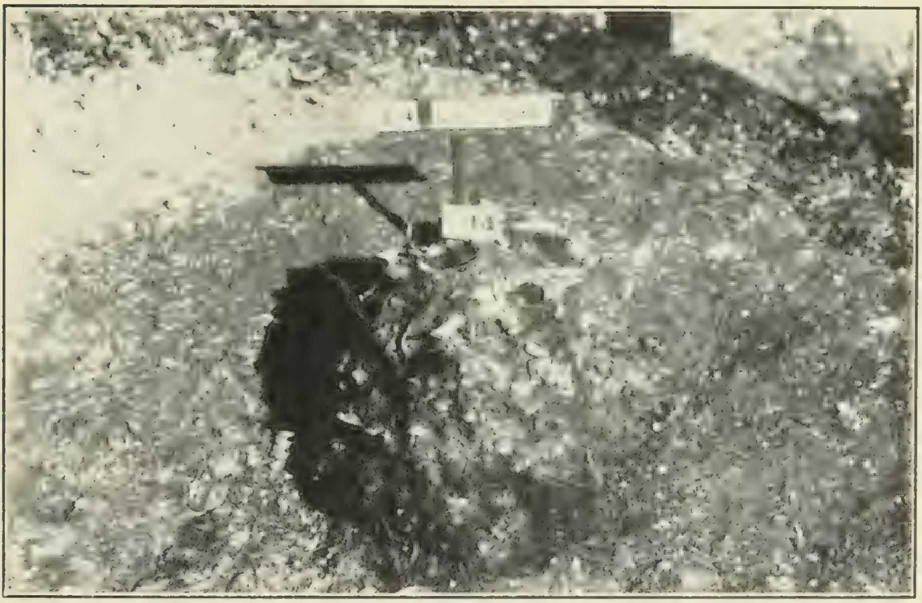
a, Burial No. 13, covered with large stones, Site Lu° 86.



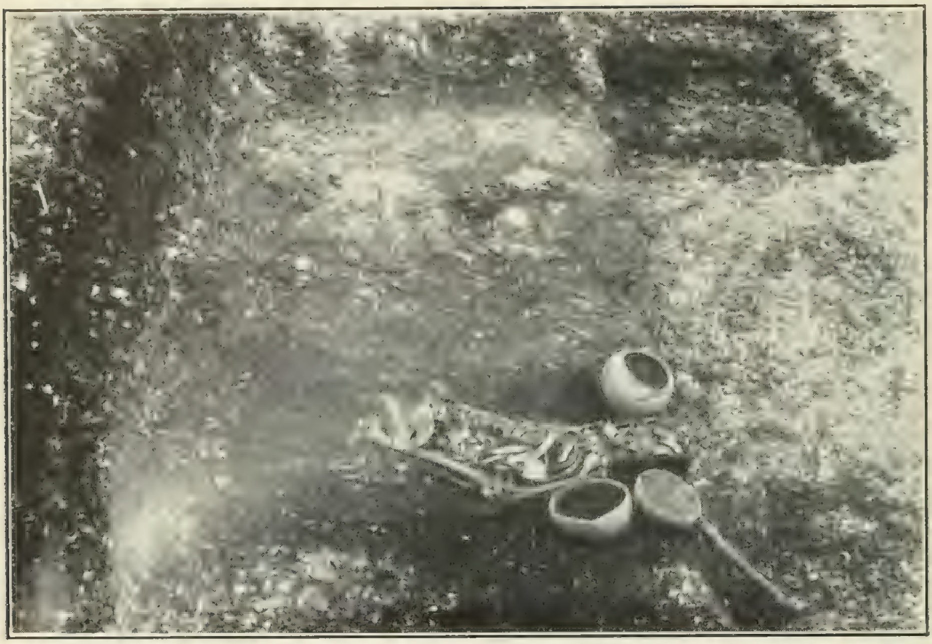
b, Burials Nos. 3 and 4, Site Lu° 86.



a, Burial No. 10, Site Lu° 86.

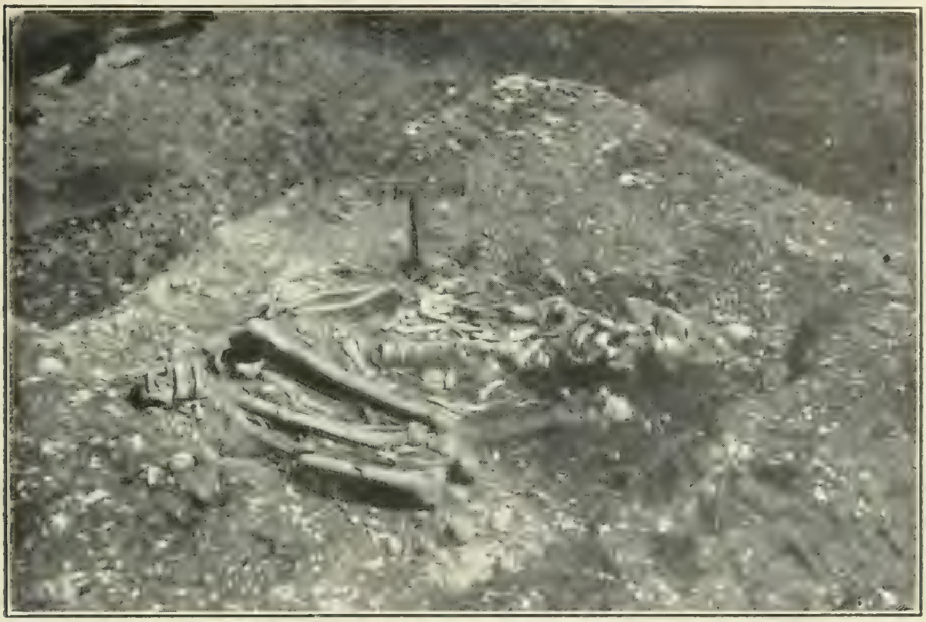


b, Burial No. 14, Site Lu° 86.

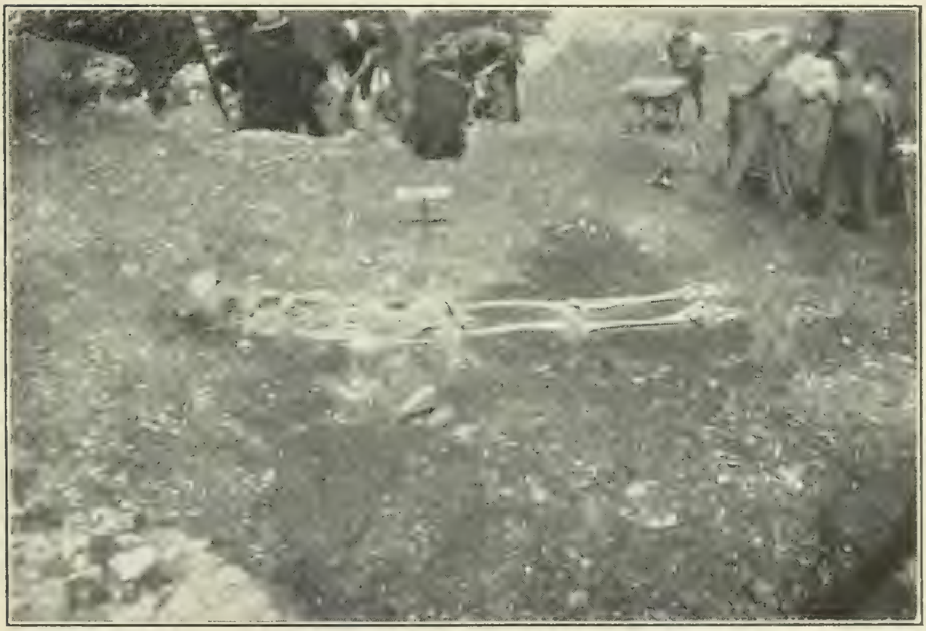


a, Burial No. 21, Site Luº 86.

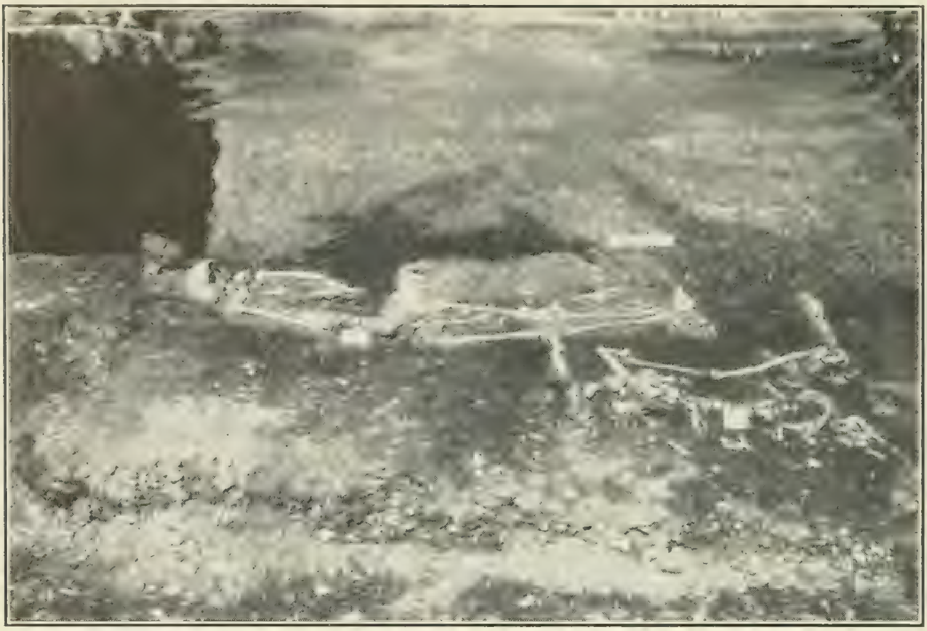
b, Burial No. 24, Site Luº 86.



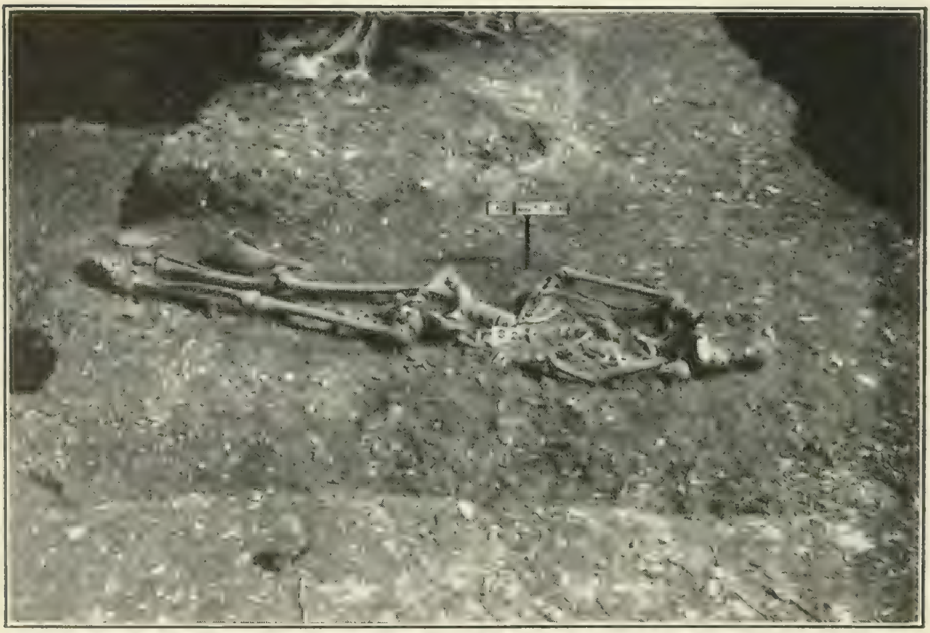
a, Burial No. 28, Site Lu° 86.



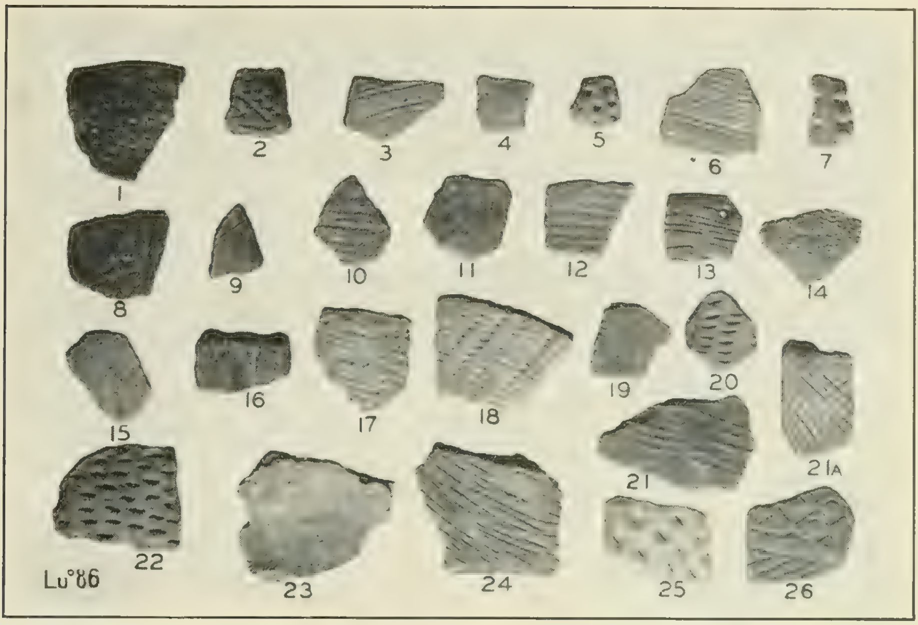
b, Burial No. 29, Site Lu° 86.



a, Burials Nos. 30 and 31, Site Lu° 86.



b, Burial No. 32, Site Lu° 86.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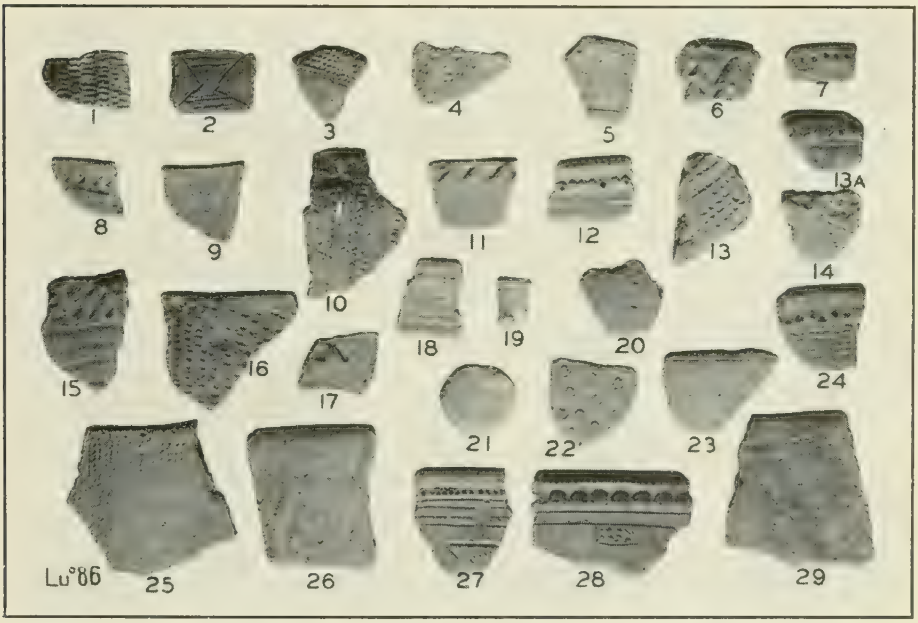
Lu°86

a, Sherds from general digging, Site Lu° 86.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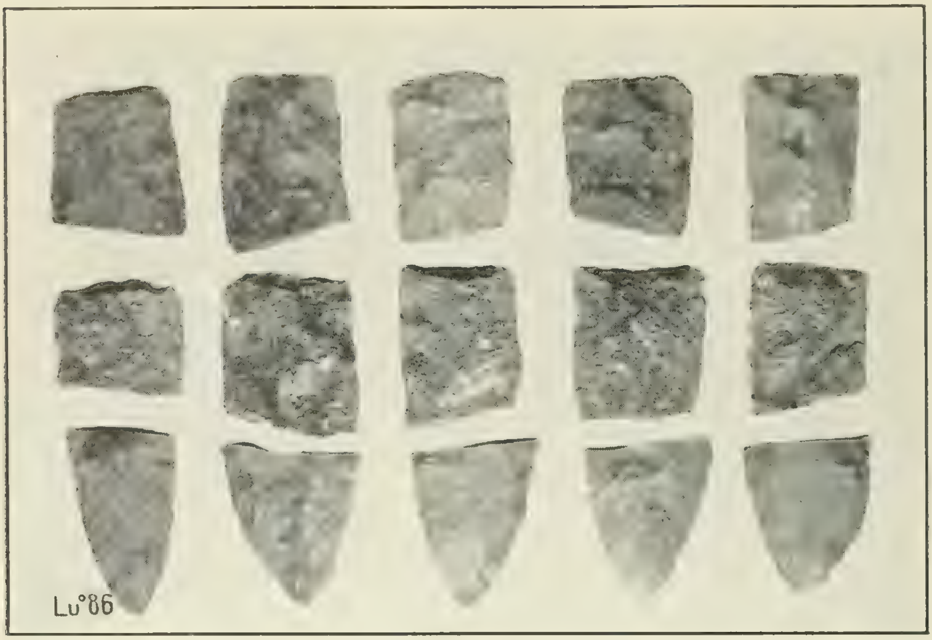
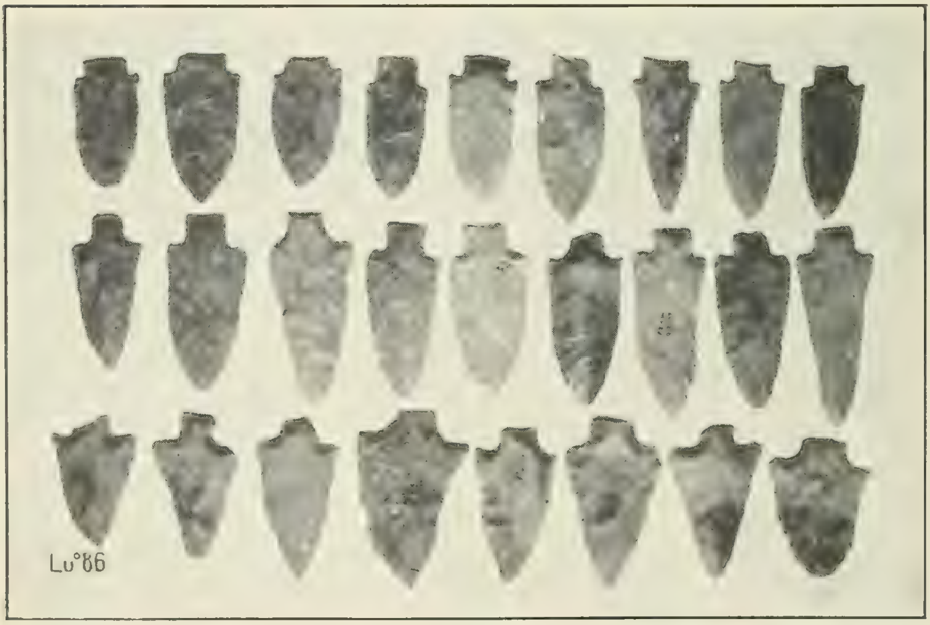
Lu°86

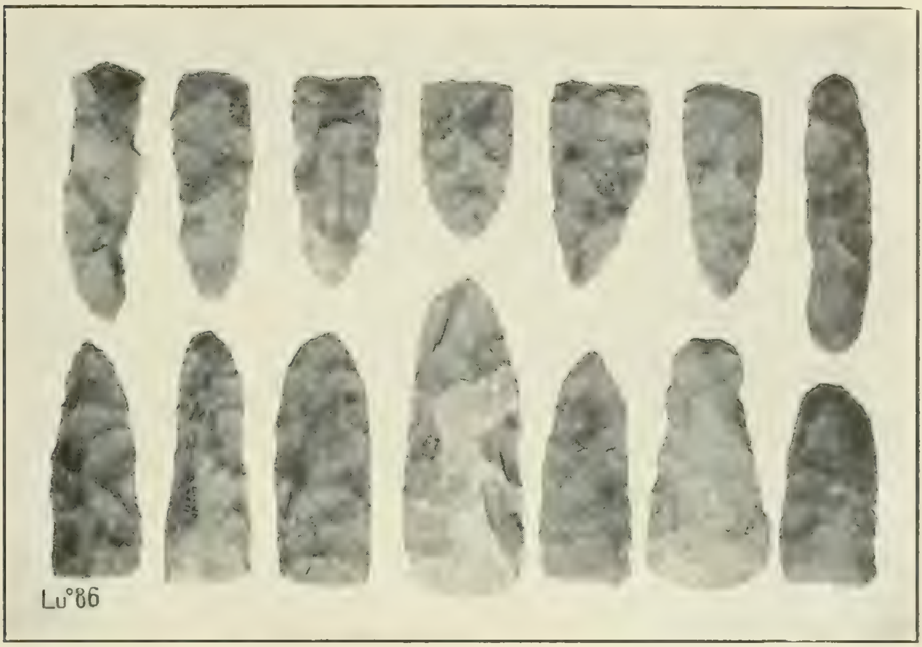
b, Sherds from general digging, Site Lu° 86.



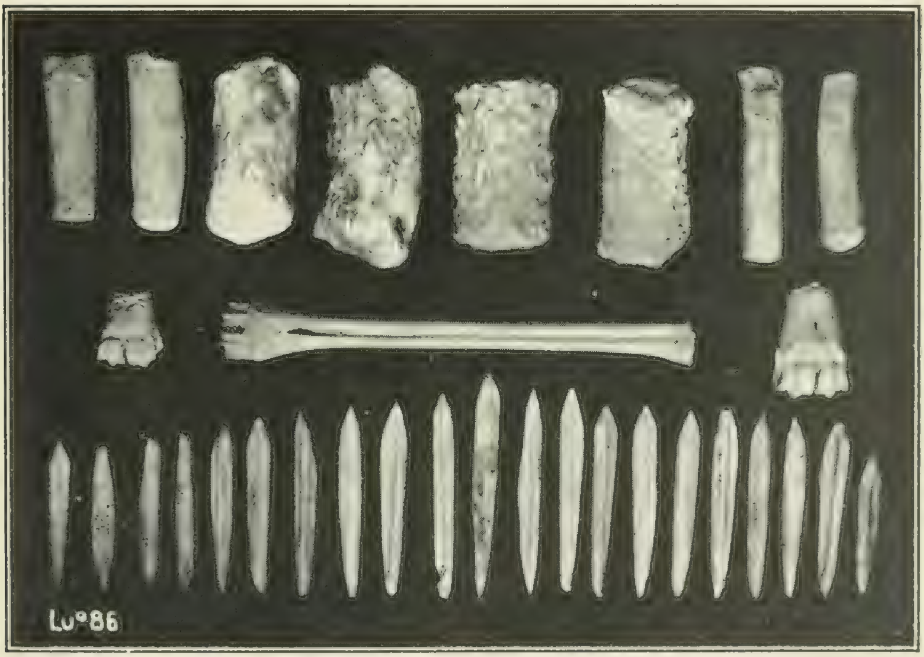
a, Broken stemless flat blades from mound interior, Site Lu° 86.



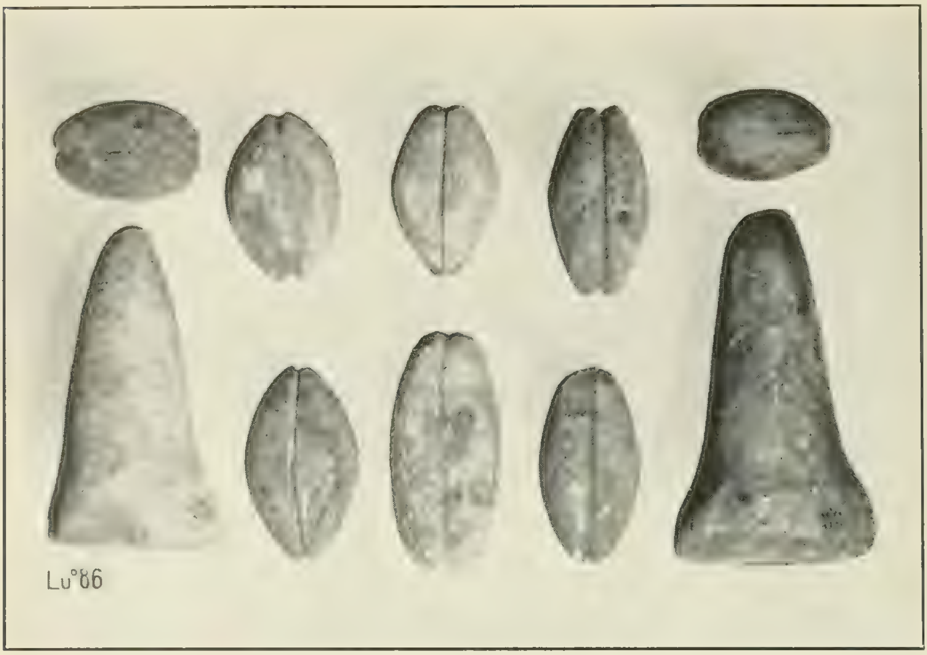
b, Projectile points from upper portion of mound, Site Lu° 86.



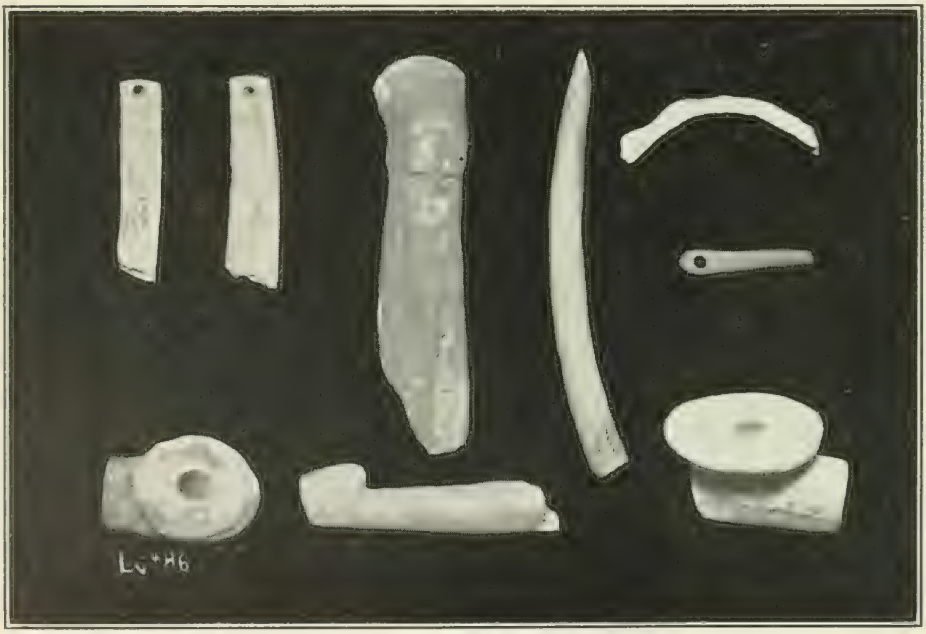
a, Crude knives and scraper, Site Lu° 86.



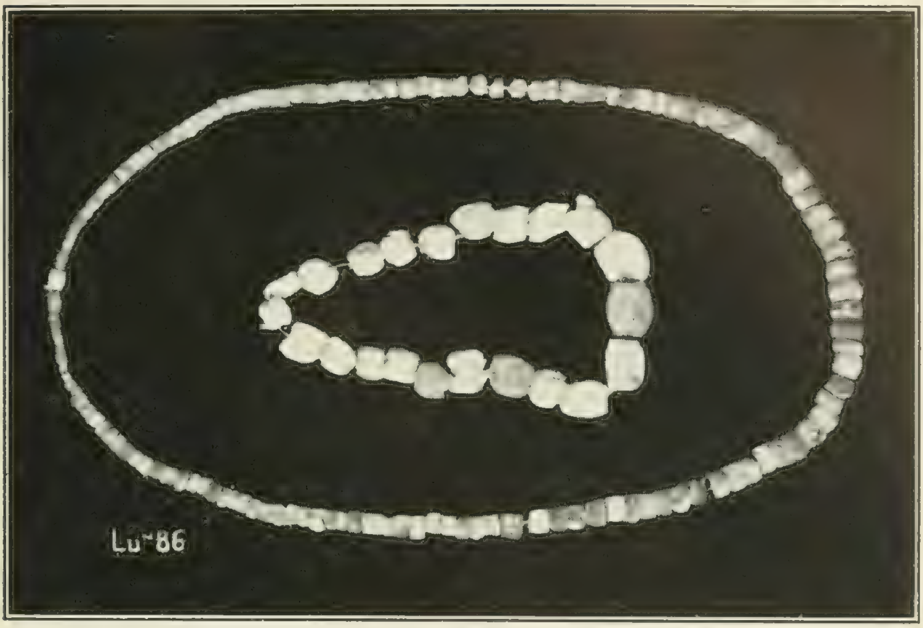
b, Horn drifts, bone projectile points, and cut cannon bone of deer, Site Lu° 86.



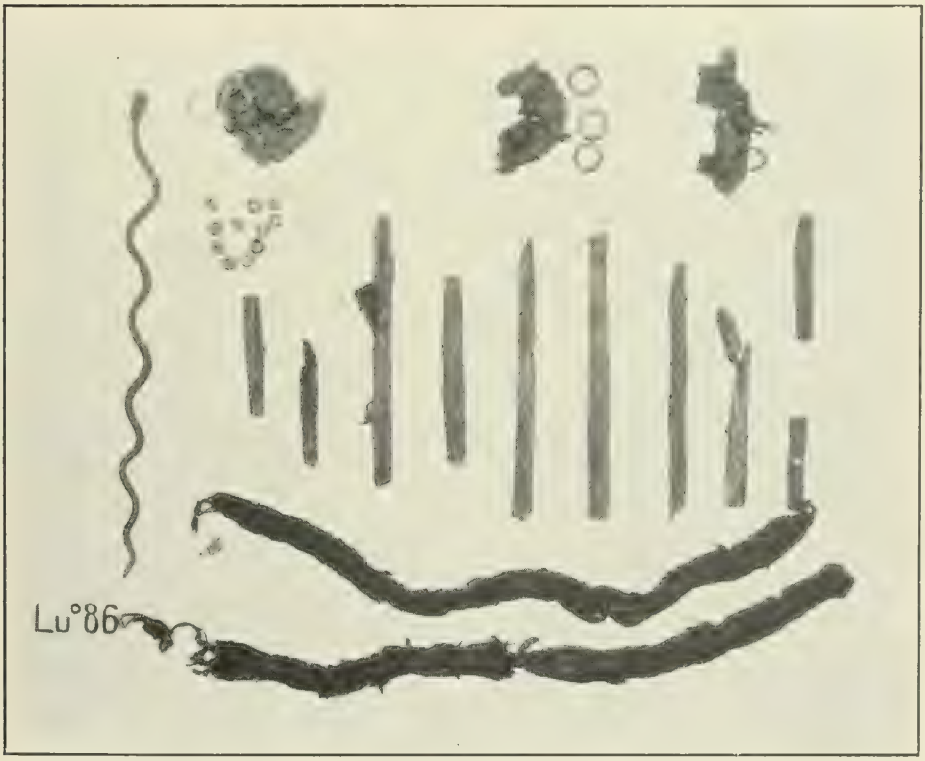
a, Net sinkers and pestles, Site Lu° 86.



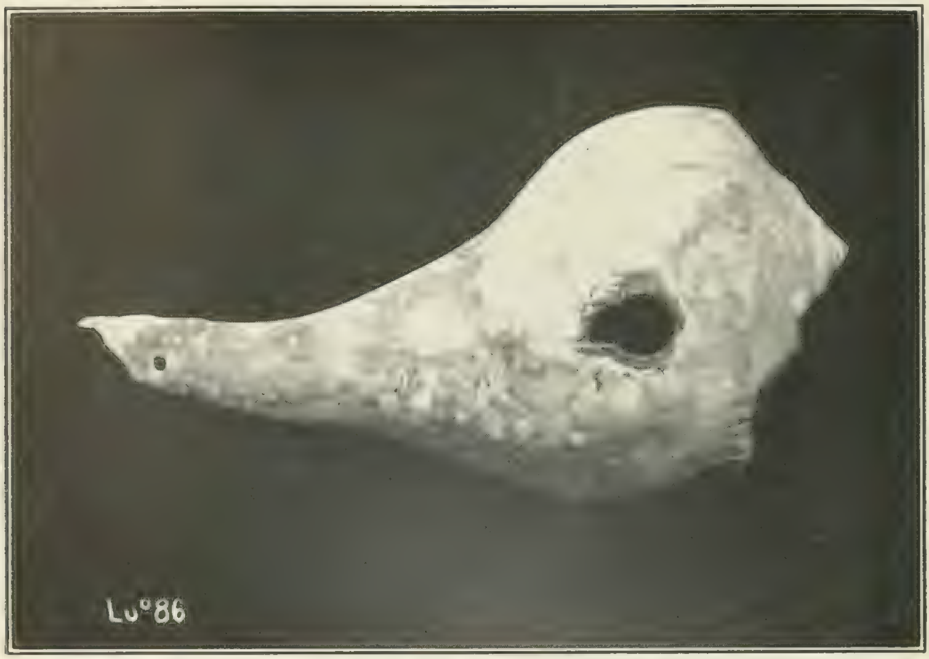
b, Bone artifacts and pipes, Site Lu° 86.



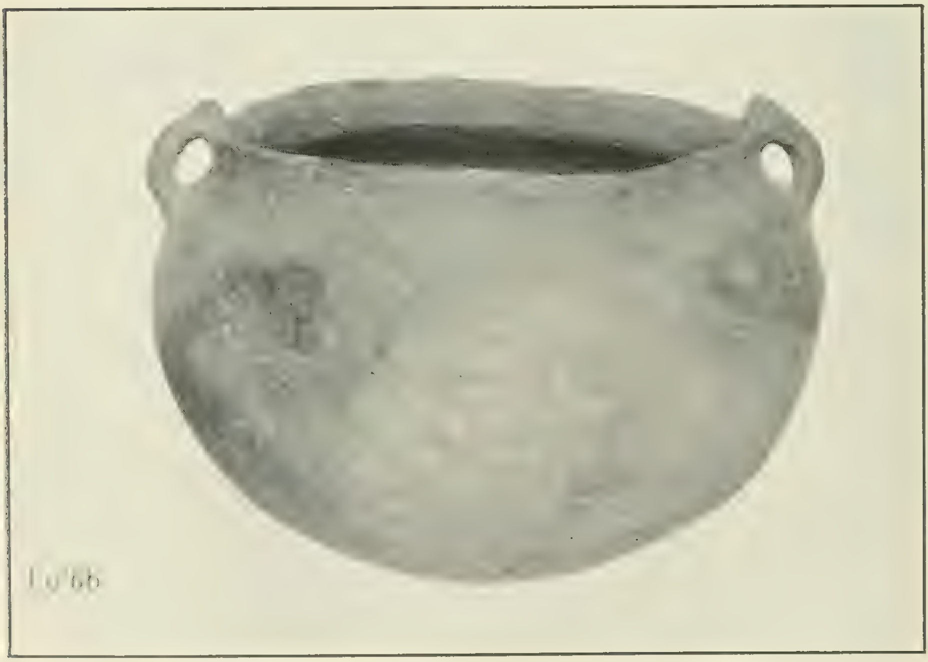
a, Shell beads, Site Lu° 86.



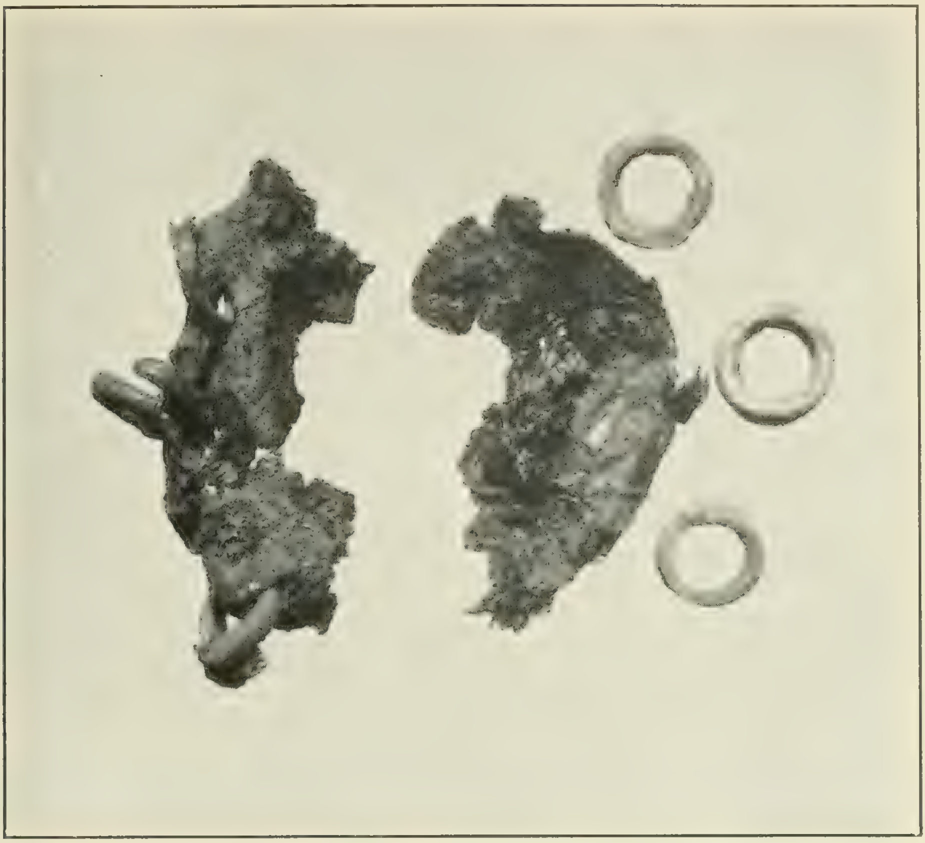
b, Copper artifacts, Site Lu° 86.



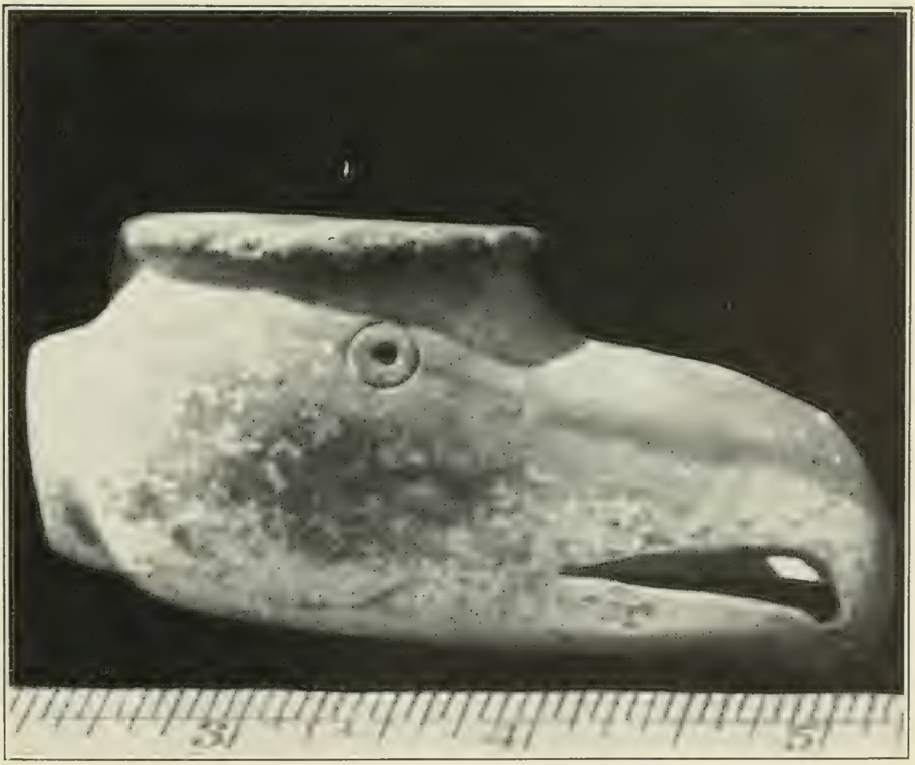
a, Carved marine shell, Site Lu° 86



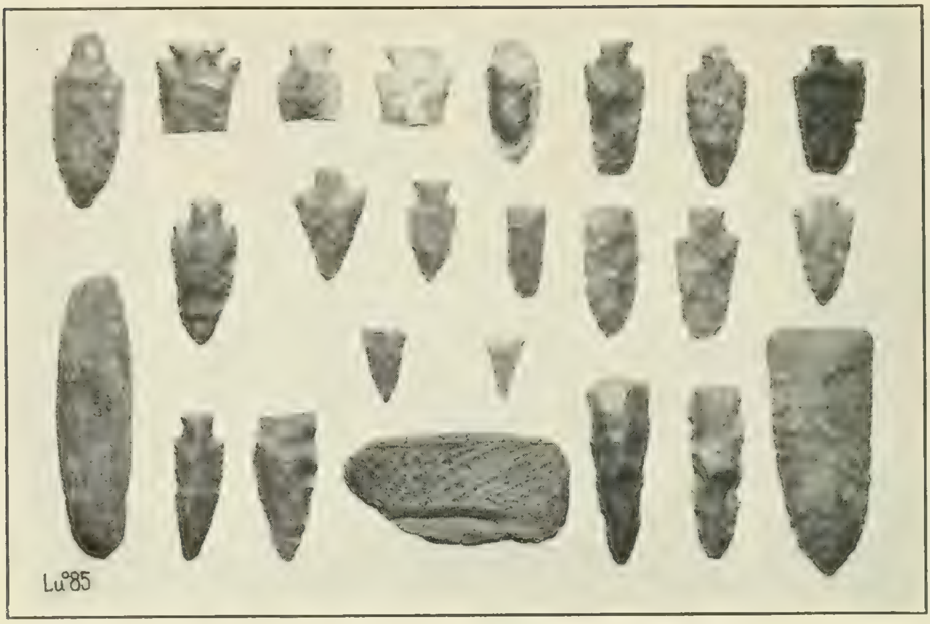
b, Perfect pottery vessel from Burial No. 21, Site Lu° 86.



a, Preserved human ears and rings, Site Lu° 86.



b, Bird-head-effigy pipe, Site Lu° 86.



a, Artifacts from general digging, Site Lu° 85.

b, Ancient campfire, Site Lu° 85.

nessee River near the mouth of Town Creek and is in the immediate vicinity of Site Lu° 86.

Evidence of fishing by the use of nets is definite. One cache of five net sinkers was located and scattered grooved sinkers, as shown in plate 14, *a*, were found throughout the shell debris. Such net sinkers, used with proper nets, may have been the means by which the supply of mussel and univalve shellfish were collected. Shell artifacts are shown in plates 14, *b*, and 15, *a*.

COPPER ARTIFACTS

From the burials in the upper layer of this shell mound a few copper artifacts were found. A snake-like copper pin, 6 inches long, is shown in plate 15, *b*. Native copper, beaten into thin sheets and rolled into cylinders, produced the copper beads shown in the same photograph. These were taken from under the chin of skeleton No. 36. Some small fragments of cloth in contact with these beads were preserved and adhered to them.

Perhaps the most interesting copper ornaments found on this site were small earrings. These were made of small copper wire bent into coils seven-sixteenths inch in diameter. Each ring consisted of from one and one-half to three complete turns. They were inserted through holes in the edge of the ears, from top to lobe, much as we put keys on key rings. These copper rings, perhaps as the result of water seepage over the shells in the mound, produced a salt which perfectly preserved the human ears in which they were placed. Several such "preserved ears" are shown in plate 15, *b*. Plate 17, *a*, is an enlarged photograph of a pair of ears. In the one on the right the "earrings" still remain in their original connection.

In plate 14, *b*, are shown a few of the bone implements recovered. One implement of bone, a rectangular block of bone, not shown in the photograph, was produced from the foot bone of the elk. It was 2 by 1⅞ by 1¼ inches and had been ground and polished so that each of the six faces was flat and smooth. It was in association with burial No. 1. The perforated shell dipper, found in association with burial No. 32, is shown in plate 16, *a*. Plate 16, *b*, shows the plain open vessel with raised handles associated with burial No. 21.

SITE Lu° 85

This site is situated about 1,000 yards from the mouth of First Creek at Lock No. 1, on the north side of the Tennessee River in Lauderdale County, Ala. It is about one-half mile due west of Site Lu° 86.

On the surface of this site cultural material was scattered over a strip of land 300 feet wide and some 900 feet long and parallel to First Creek. The excavation here was undertaken at a time when Site Lu$^{\circ}$ 86 was flooded. It was thought that the large amount of surface material might indicate a considerable depth of deposit at the central ridge on this site, but excavation revealed the deposit to be quite shallow and to have been scattered by erosion and cultivation. Sample material from the test trenches is shown in plate 18, *a*. Plate 18, *b*, shows a fireplace in the old village.

This site, evidently a temporary village site, was located on a natural ridge of limestone extending along the creek bank. This natural ridge gave the impression that the midden deposit was of considerable depth. The existence of this natural ridge was probably the determining factor in the selection of this site by prehistoric man as a habitation site.

ARTIFACTS

The stemmed projectile points, scrapers, and potsherds seem to correspond to the cultural material found in the upper layers of site Lu$^{\circ}$ 86. There was no evidence of the use of spears, and no rejects of this type were found. Among the stone artifacts from this site were flint drills, chipped flint celts, grinding and polishing stones, and hammerstones.

SITE Ct^{v} 17

Site Ct^{v} 17 is an accumulated shell mound (pl. 21, *a*) and village site situated on the south bank of the Tennessee River, one-half mile southeast of the mouth of Cove Creek in Colbert County, Ala. It is shown in part on the Gravelly Springs and in part on the Barton quadrangles of the topographical maps of the United States Geological Survey, State of Alabama. It is in a flood plain of the river on cultivated land, as shown in plate 19, *a*. The land is owned by Mr. Thompson Pride of Pride, Ala. The site can be reached by automobile along a field road which leaves the surfaced highway between Tuscumbia and Corinth, 1 mile west of the village of Pride.

The site was located and its designation fixed by the survey of archaeological sites along the Tennessee River, made by the Alabama Museum in the summer of 1933.

The first problem was to determine the extent of the shell mound. Along the river bank, where the river had washed away the subsoil and had exposed the shell (pl. 19, *b*), the shell was found to extend 410 feet, which is the approximate length of the mound. Horizontal and vertical control was brought to the site from United States Engineer's Bench Mark No. 82 at the mouth of Cane Creek. This control line was brought to a marked point near the mound as shown in the topographical map of this site (fig. 5). Test pits were sunk into the flood plain in order to determine the width of shell. The location of these test pits and the trench system are also shown on the topographical map (fig. 5). The width of shell deposit was found to be 150 feet.

A characteristic soil relationship was seen in these test pits which held true for all trenches dug. At the top was a light-brown soil varying in depth from 7 to 14 inches. This was river silt, fairly sandy and aerated by plowing and plant growth. Beneath this was a layer of dark clay which varied in depth from 6 to 30 inches. When shell was found, it was under this darker clayey silt and rested on a hardpan of light-colored clay of undetermined depth. When there was no shell the hardpan underlay the clay. The variance in depth of the two top layers was due to their location in respect to the shell. As the mound proper was reached this depth was diminished and in one place the shell itself was exposed.

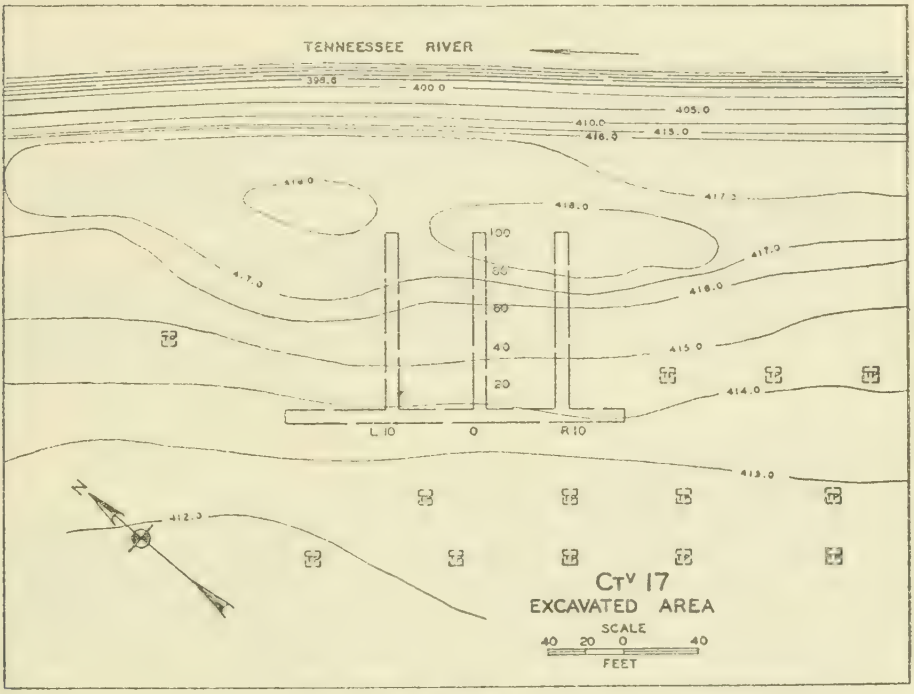


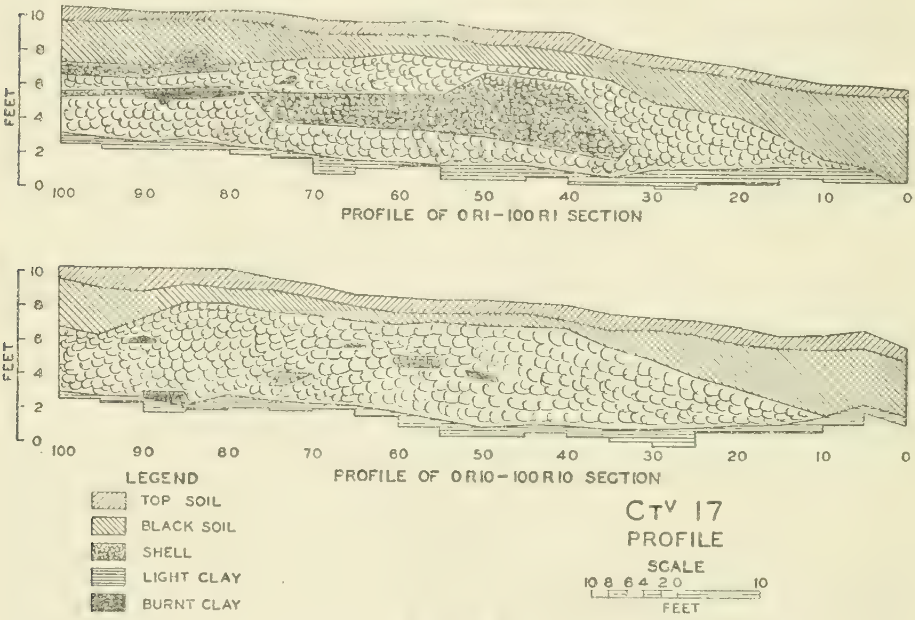
FIGURE 5.

From the information gained from the test pits and the exposure along the river bank it was possible to stake off the mound. This was done by establishing a line along the probable short axis of the mound and setting stakes every 5 feet. Perpendicular to this line a base line was established along the southern edge of the mound. Stakes were set along the base line every 5 feet. Those to the southeast of the zero line were designated 0R1–0R2, etc., up to 0R16, and those to the northwest of the zero line were designated 0L1–0L2, etc., up to 0L20. The 5-foot squares were designated by the stake on the lower side and farthest away from the zero line.

Because of the size of the mound and the limited time of available labor, it was not possible to completely remove this great accumulation of shell, so that selected 5-foot trenches were run through the mound. The base line was dug down to clay floor from 0R16 to 0L20. One trench was dug between the zero line and the 0L1 line and designated the R1 trench. A second trench was put down between R9 and R10 and designated the R10 trench. A third trench was designated the L9 trench (pl. 22, *b*). These trenches were cut down in 1-foot levels and the same methods were used as if the whole mound was to be removed.

Profiles

Profiles were taken along the base line, the R1 trench, the R10 trench, and as much of the L9 trench as was excavated. These profiles are shown in figures 6 and 7.


FEET
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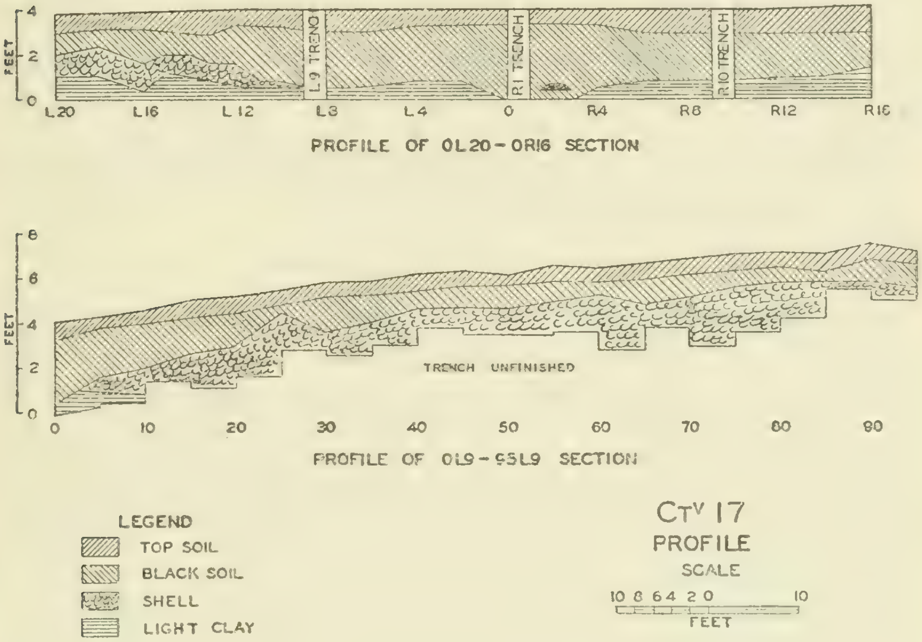
0
PROFILE OF 0 R1 – 100 R1 SECTION
FEET
PROFILE OF 0 R10 – 100 R10 SECTION
LEGEND
TOP SOIL
BLACK SOIL
SHELL
LIGHT CLAY
BURNT CLAY
Ctv 17
PROFILE
SCALE
10 8 6 4 2 0
10
FEET

Figure 6.

The base-line profile shows the relationship of the top soil, the black clay, and the light-colored clay hardpan. It also shows the position of shell where it was struck in two places near 0R2 and from 0L9 to 0L20. This latter exposure of shell seems to indicate that the mound's long axis is not parallel to the present course of the Tennessee River, but runs in a more east-west direction. It was found difficult to distinguish at every square the contact of black soil and hardpan, one grading into the other. The hardpan is not seen as a floor in several squares, but the black clay has the characteristic gradation, and it was not deemed advisable to excavate below the

4-foot level. It is of interest to note that numerous rotten animal bone fragments were found along the 01 squares at a 3-foot level, and flint, sandstone, quartzite, and limestone fragments were found above the hardpan in the 0R squares. The original hardpan floor beneath the shell was uneven.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PROFILE OF 0L9-95L9 SECTION
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TOP SOIL
BLACK SOIL
SHELL
LIGHT CLAY
CTv 17
PROFILE
SCALE
10 8 6 4 2 0
10
FEET

FIGURE 7.

The profile of R1 trench shows the slope of the shell mound, as does the photograph shown in plate 20, *a*. The profile indicates the diminishing depth from the surface to shell as the elevation of the mound was reached. In two places the clay floors were found at the R1 wall. The small mound of shell rising above the general level at 85R1 is a heap of shells which were found piled over a dog skeleton in the R1 wall at that place. The darker coloring in the shell profile indicates shell concentrations, either as pockets or as semblances of stratification. The following table indicates the concentration of shells and the presence or absence of univalves and bivalves. The shells were counted in 6-inch squares down the face of the trench at 60R1, the top square being designated by 1.

Square No.	Number of univalves	Number of bivalves	Square No.	Number of univalves	Number of bivalves
1	0	0	7	15	36
2	2	0	8	20	28
3	15	4	9	14	16
4	9	4	10	4	1
5	15	3	11	1	5
6	16	26	12	0	1

The R10 profile also shows the slope of the shell mound, as does its picture (pl. 20, *b*). Again the top soil layers are diminished in depth as the mound is ascended. Clay floors are seen here in three places. Shell concentrations are also shown, but there is no semblance of stratification, only indefinite patches or pockets.

The profile of the L9 trench shows only into the shell, the remainder of the trench having never been excavated. This is also shown in plate 21, *b*. One interesting feature of this profile is the pile of shells at 25L9, which is an extensive accumulation in the midden.

By means of the profiles and surface elevations it was possible to give actual elevations of the top or the shell.

SKELETONS AND CLAY FLOORS

Nine skeletons were found on Site Ct^v 17. Burials in the flesh were predominant, there being five of them. Two skeletons were fully flexed, one was partially flexed, one was curled, and one of a child buried in the flesh was of undetermined placement. All the disturbed burials were superficial interment, which were subsequently disarranged by the inhabitants. Two burials had definite artifact associations. The bundle burial had a terrapin shell in association, which contained a bone awl and a bone spatula, as well as a cut deer jaw, which may have been a gorget. Associated with skeleton No. 7, the young infant, were hundreds of long and short shell beads. The rest of the artifacts which were found near the skeletons may or may not have been associated with the burials. Five of the burials were on top of the shell and four were in the top part of the shell. There is no relation between the type of burial and its position in respect to the shell. Of the nine skeletons there were four adult, one adolescent, one child, two infant, and one undetermined.

Burned clay floors were found in the three trenches excavated. These show successive fires of inhabitants. They appear to fall into three groups according to the depth, and have been mapped as such. A picture of one with stone hearth is shown in plate 22, *a*. Two large associated burned clay fire pots containing loose rock and charcoal are shown in plate 23, *a*, *b*. These pots were 15 inches in diameter, one was 9 inches deep, the other 6 inches deep, and both were 2 inches thick. The loose rocks may have been heated in the pot and used for cooking. There is no continuity to the floors; they are small isolated floors or remnants of larger structures. In all but one case there were floors under or near the burials.

Another interesting feature should be mentioned here. It was a dog skeleton found on top of the shell but with other shells heaped in a pile over it. It was evidently a careful burial. Plate 24, *a*, shows this skeleton and the heavy layer of shell deposited over it.

BURIALS

Burial No. 1.—A child skeleton was found in square 90R1 at a depth of 27 inches. This was either a disturbed or bundle burial, with bones in poor condition. All were fragmentary and some were missing. The burial had been placed on top of the shell layer. It may represent a partial cremation, as some of the bones had been partially charred. There was in possible association a burned antler.

Burial No. 2.—An infant skeleton had been placed on top of the shell layer at a depth of 24 inches in square 70R0. The burial had been disturbed and bones were in poor condition—fragmentary and in disarray.

Burial No. 3.—An adolescent fully flexed (pl. 24, *b*) had been buried on top of the shell layer at a depth of 34 inches in square 95R10. The head of this skeleton was lower than the pelvis and pointed exactly north. There appeared to be a bone awl in association.

Burial No. 4.—A fully flexed adult had been buried in square 60R10. The grave had been intruded into the shell to a depth of 34 inches. This burial is shown in plates 25, *a*, and 26, *b*. The body was placed on the stomach, knees flexed beneath the body. The radius and ulna of the left arm were between the femora, showing it had been extended between the legs. The skull was inverted and lying beneath the right scapula and humerus, where the weight of the earth had forced it. The cervical vertebrae were in place, showing the head had been in place when buried. To the right of the pelvis a large rounded projectile point 3 inches long was found.

Burial No. 5.—This was a disturbed burial of undetermined placement. It was in very poor condition, on top of shell layer at a depth of 24 inches in square 85L9.

Burial No. 6.—This was a bundle burial of an adult male found at a depth of 36 inches in square 35L9. It was found in the top of the shell layer. In a terrapin-shell container there were found a cut bear jaw gorget, a bone awl, and a spatula (pl. 25, *b*).

Burial No. 7.—This burial was an infant. The bones were in disarray in square 90R10 at a depth of 50 inches. The bones were quite immature and may indicate a still-born infant. The remnants of the skeleton were in the top of the shell layer, immediately above a burned clay floor. The body had scattered over it hundreds of long and short shell beads.

Burial No. 8.—This was a partially flexed adult female, found in square 80L0, at a depth of 22 inches. The burial was just within the top of the shell layer. It is shown in plate 26, *b*. Two large potsherds were found in association.

Burial No. 9.—This was a fully flexed adult female burial found in square 75L9 at a depth of 34 inches. No artifacts were in association.

STONE ARTIFACTS

There does not appear to have been any distinct break in culture throughout the mound that can be discerned from the different types of stone artifacts.

The 3-foot level yielded the greatest number of artifacts, while the 2- and 4-foot levels were nearly as prolific. This would place them just above and just in the top of the shell layer.

The most common type of stone artifact was the projectile point of gray chert having a straight, or nearly straight, stem and a square or slightly obtuse shoulder. Only one barbed point was found and this might very well have been of chance manufacture. These straight-stemmed types disappeared at 5 feet, where the leaf-like points tapering at both ends were slightly more common. These types are shown in plate 27, *a*, *b*. The leaf-like points were found above and at the top of the shell, so that they are not a new form from the 5- to 7-foot layer.

A few small points having an isosceles-triangle shape were found from 1 to 3 feet.

The drill or perforator made of chert with the straight stem, or with slightly expanded stem, was most common at 2 or 3 feet; only one was found at 4 feet and none were found below this level. The bone and horn instruments appear to take its place. The workmanship of the chipped stone was generally poor, the three triangular points being the thinnest and showing the best workmanship. The size with few exceptions ran from 2 inches to 3 inches. The largest blades were of the leaf type. One was 5 inches, rounded at one end and pointed at the other. Another blade pointed at both ends was 4 inches long. These blades were fairly thin and showed careful workmanship.

Two limestone blades were found at the 2-foot level. These were thinly ground, one being 6 by 4 inches and the other 12 by 4 inches. Probably they are broken hoes. They are shown in plate 28, *b*.

At 3 feet, half of a limestone disk was discovered. This had a rounded rim like a doughnut and two concave faces. It might have been a drill stock or a portion of game stone.

Two broken slate gorgets were found in the 1-foot level. They were evidently pieces of the four-wing type of gorget. One fragment had a drilled hole through it, as well as incised markings along the edge (pl. 28, *b*).

The only other artifact of polished stone was a greenstone celt, 5 inches long and 2 inches wide. It tapered slightly at both ends, one of which was almost rounded, the other being flattened and ground with a double bevel. This object was found after a cave-in along the trench, but a careful check of the soil showed it to have been located 2 feet from the surface.

Large numbers of chips, blocks, and rejects were also found and cataloged.

BONE ARTIFACTS

Site Ct^v 17 yielded over 110 bone artifacts of special interest. These, for convenience, were grouped as follows:

Name	Number of pieces	Name	Number of pieces
Bone spatulae	6	Worked bones	33
Bone awls	36	Bone needles	3
Antlers	13	Bone beads	1
Bone gorgets	1	Bone fishhooks	2
Bone drifts	12	Bone scrapers	1

These artifacts occurred almost without exception in the shell layer proper, an indication that these people were in the hunting and fishing stage of social development. Also, if there was any concentration of artifacts noticeable, it appeared around the clay hearths found at various places throughout the mound. Most of the artifacts occurred in the 3-, 4-, and 5-foot levels.

The bone spatulae were portions of long bones split and worked until the points were well rounded. They were well preserved and had a high polish from constant handling.

Bone awls were the most numerous of all the special artifacts, there being 36. These showed a wide difference in sources, some being fragments of long bones while others were sharpened clavicles.

The deer antlers were worked and showed indication of having been used for arrow points. They exhibited no features of special interest, except one antler, which was decorated with incised lines to form a diamond-shaped pattern.

One bone gorget made from the plastron of a turtle was found; although broken, it was mended and measured. There were two arms of a right angle, each arm 4 inches in length with a hole for suspension at the vertex of the angle, as shown in plate 29, *a*.

Twelve bone drifts made from heavy long bones were found but revealed nothing of interest.

What appeared to be beaks of some long-beaked birds were found; three in number. They were curved, with a deep groove extending along the inner side of the curve. Two large condyles with a hole between them gave the appearance of a needle; it was suggested that they were the beaks of ivory-billed woodpeckers.

Two bone fishhooks gave further evidence of these people's dependence upon the river. Small fragments of long bone were carefully scraped and cut to form a barbless hook. A notch was cut around the stem for the attachment of a thong of some nature (pl. 29, *a*).

Only one piece of metal was found in the mound, and this consisted of a piece of native copper, hammered and rolled to form a copper awl, 2 inches in length.

Plate 29, *b*, shows a portion of the shell beads found scattered over burial No. 7.

POTTERY

The sherds from this site were fairly abundant and of quite varied form. Some 700 sherds were taken for study and classification. While a complete classification of this pottery is included in a later portion of this report, it may be pointed out here that plate 28, *a*, shows typical sherds of cord-impressed, paddle-stamped, and woven-textile impressions. Several lug sherds were found which seemed to be legs of vessels. Plate 30, *a*, shows various incised decorated sherds which were numerous, as were also the intaglio decorated sherds shown in plate 30, *b*.

CONCLUSIONS

The flood plain under consideration was originally inhabited by primitive hunting and fishing people. They gathered mussels and snails from the bars of the river and caught gar, drum, cat, and other fish. Their hunting brought them deer, ground hog, squirrel, opossum, raccoon, and various game birds. The shells and bone fragments resulting from this diet were thrown down on the banks of the river where they lived. These savages made crude flint points, little or no pottery, and few implements of bone.

With continued occupancy, the accumulation of debris increased, and because of the advantageous high ground it produced, the inhabitants remained on this midden. These Indians progressed in their crafts; their fishing and hunting brought in greater supplies of food; and they made many tools and ornaments of bone and shell. Pottery was made in increasing amounts with various tempering materials and decorations. Textiles were made and ground stone came into use. Fires were kept on clay floors laid over the shell deposits.

Agriculture later began to supplement hunting and fishing and fewer shells accumulated. The inhabitants were driven from time to time to the nearby cliffs by flood waters, which left deposits of silt over the shell. More pottery was made with an increasing amount of stamped ware. The village may have been deserted for a time and later reinhabited in more recent times by the same type of people.

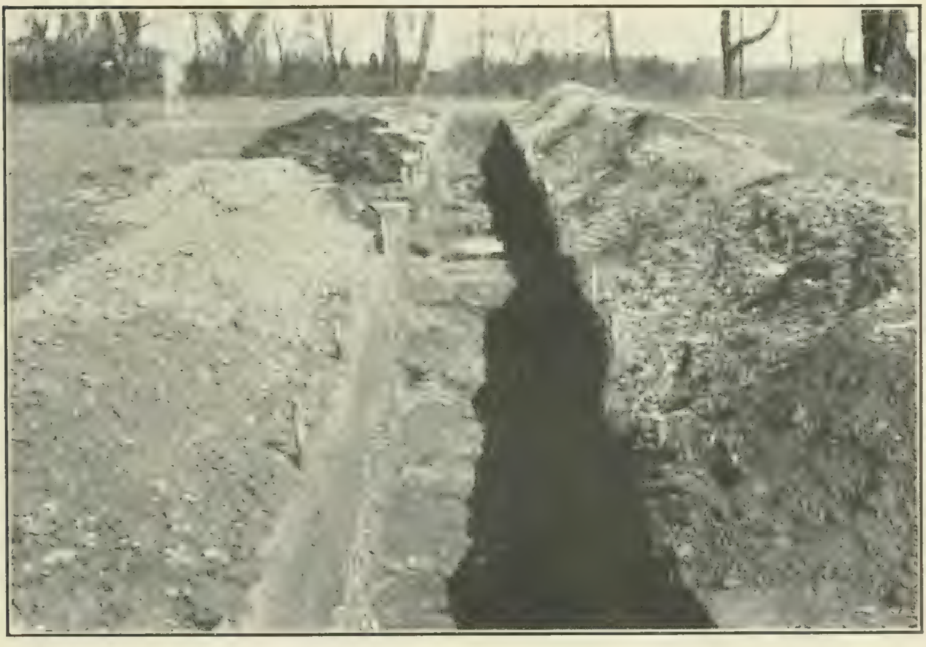
a, Panorama of Site Ct^v 17.

b, River-cut bank showing shell exposure, Site Ct^v 17.

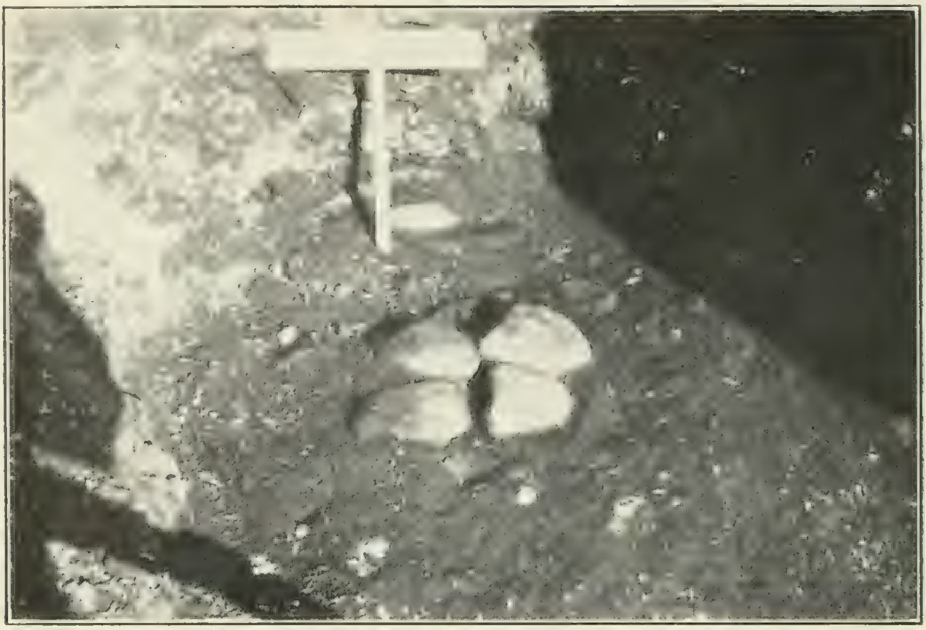
a, R1 trench profiles, Site Ctᵛ 17.

b, R10 trench profiles, Site Ctᵛ 17

a, Bank of Tennessee River, Site Ct^v 17.

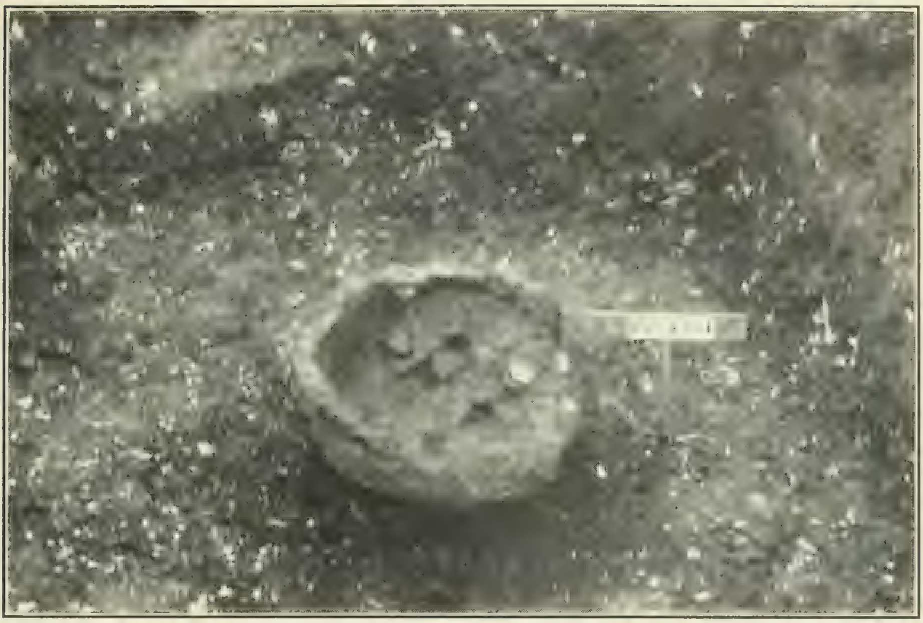


b, L9 trench profile, Site Ct^v 17.

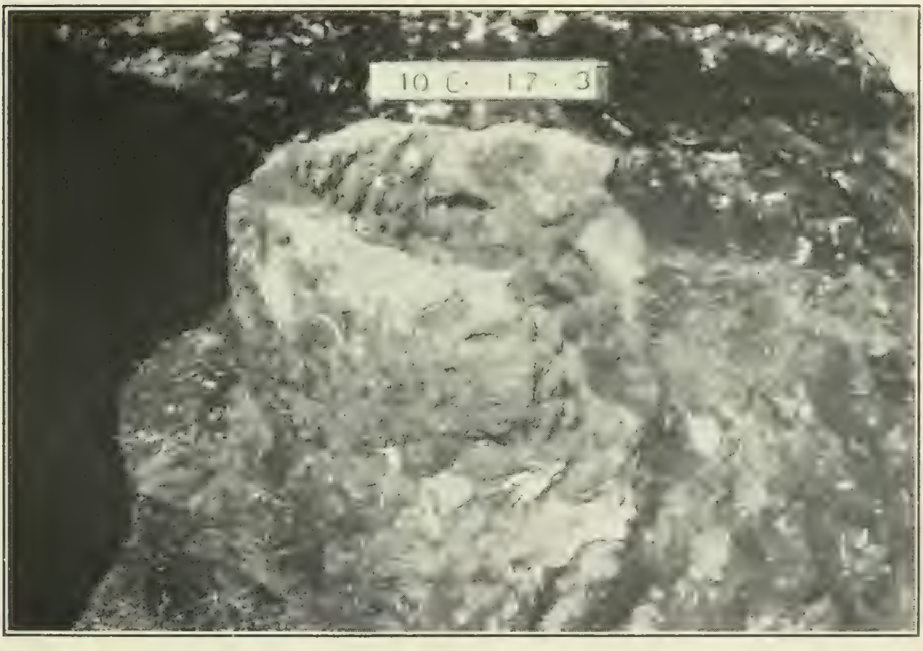


a, Hearth on prepared clay floor, Site Ctᵛ 17.

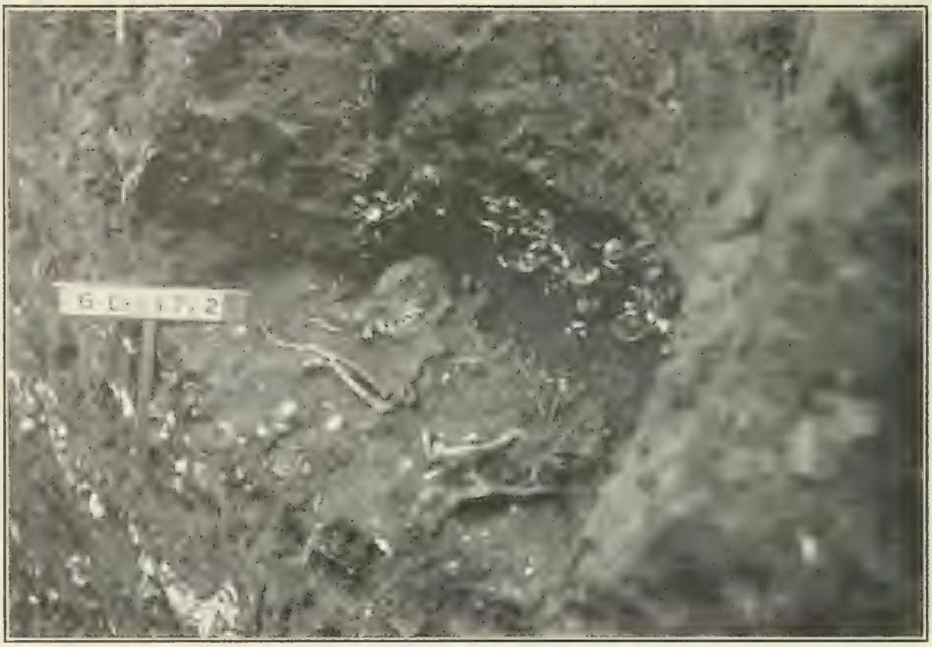
b, At work in the L9 trench, Site Ctᵛ 17.



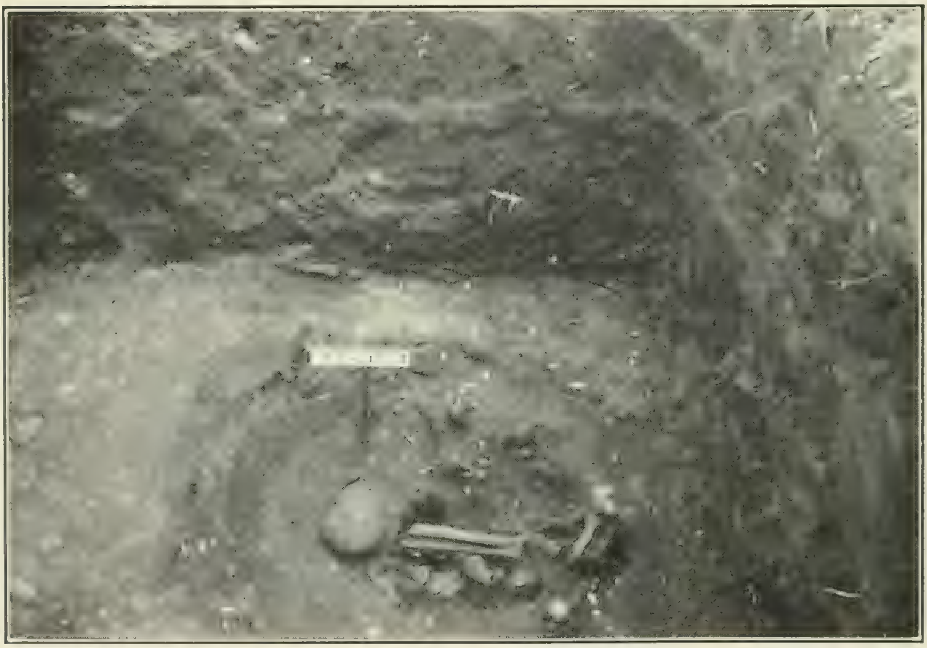
a, Burned-clay fire pot, Site Ct^v 17



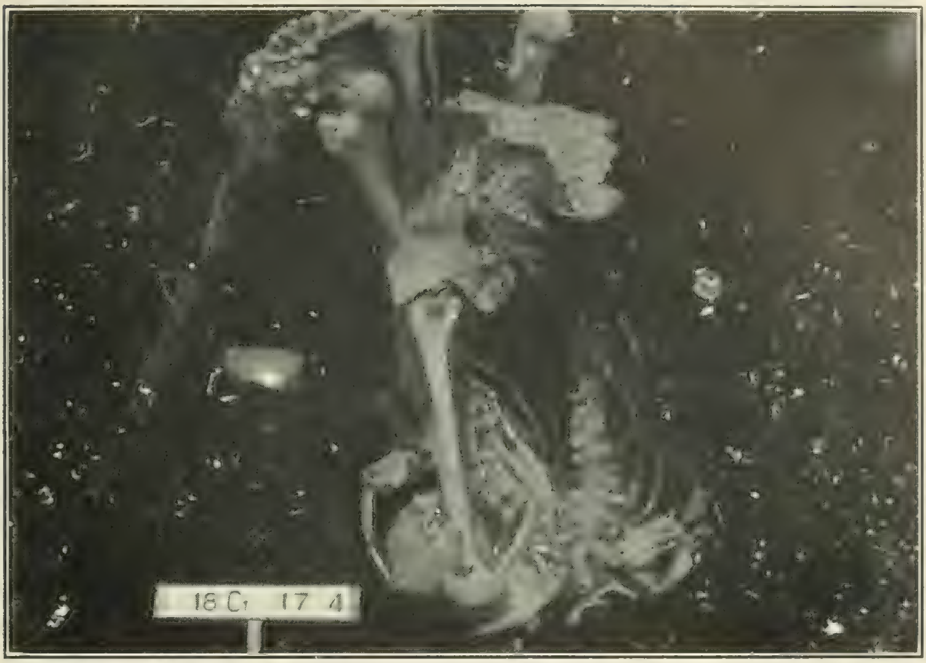
b, Burned-clay fire pot, Site Ct^v 17.



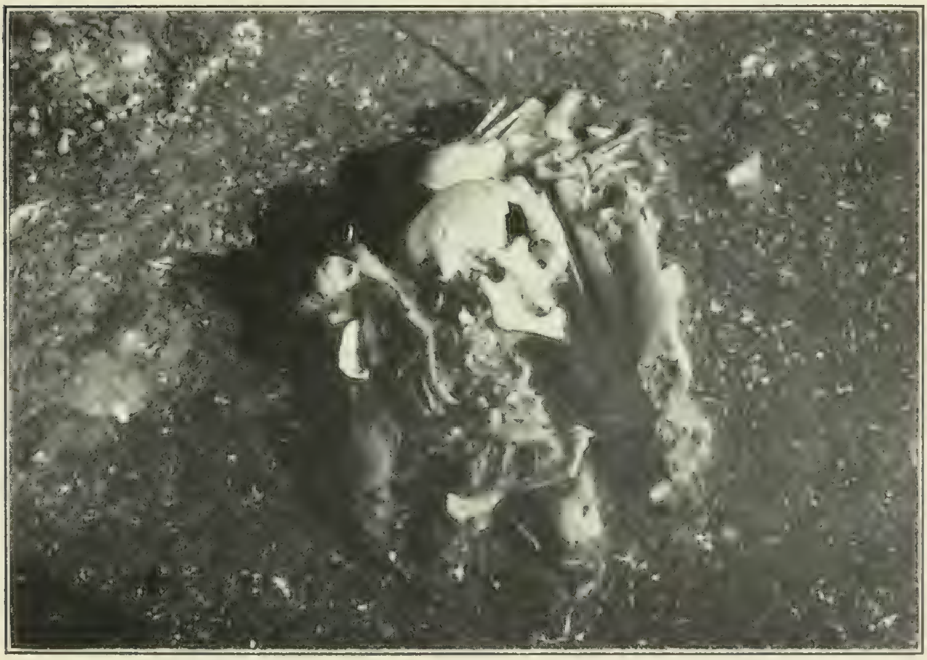
a, Dog skeleton covered with shell, Site Ct^{v} 17.



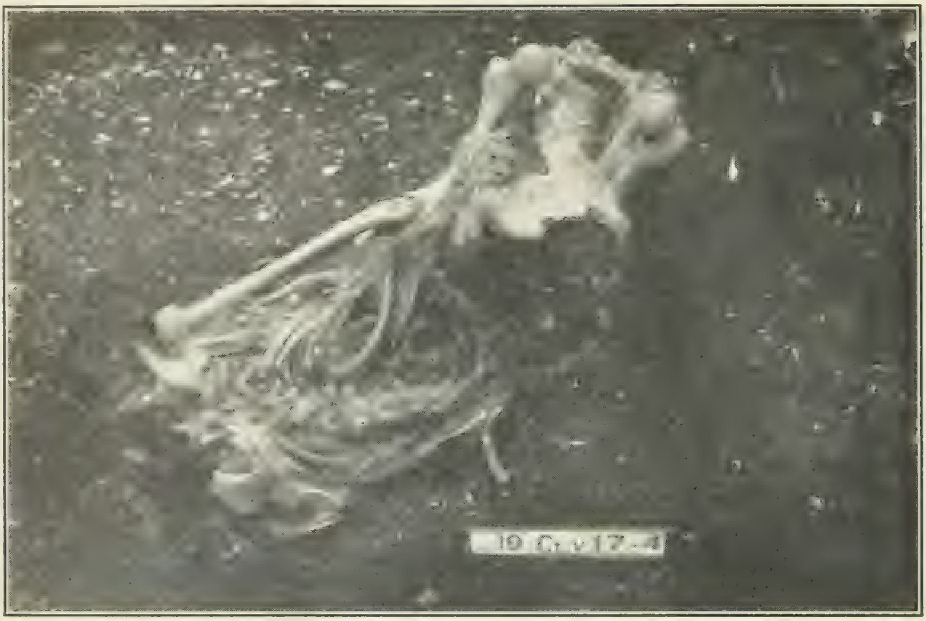
b, Burial No. 3, Site Ct^{v} 17.



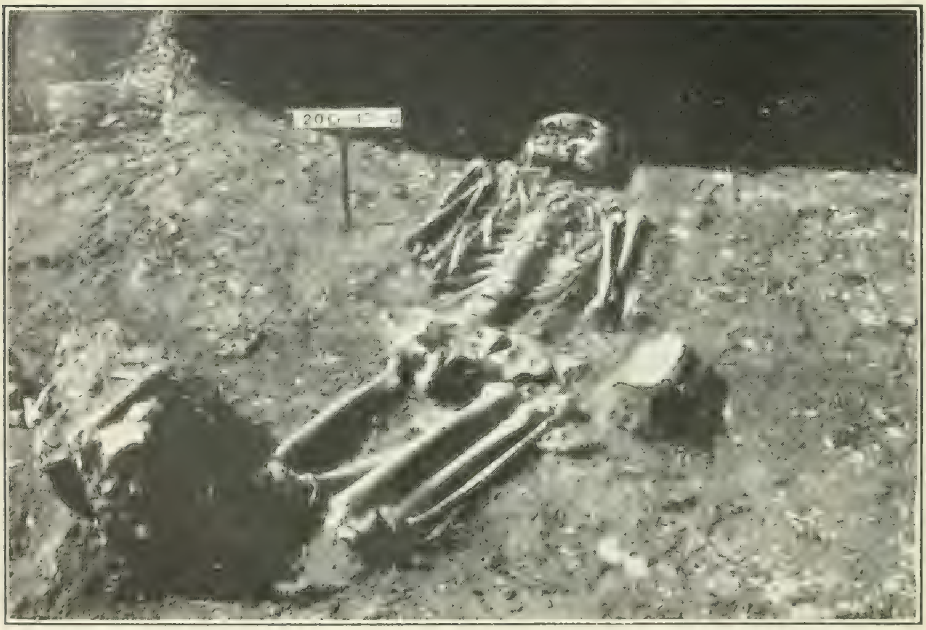
a, Burial No. 4, Site Ct^{v} 17.



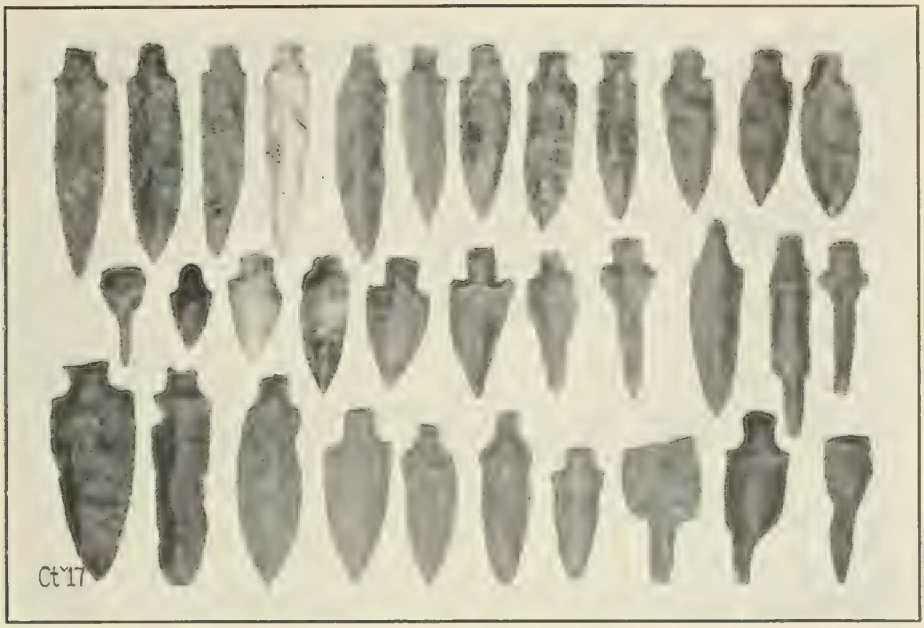
b, Burial No. 6, Site Ct^{v} 17.



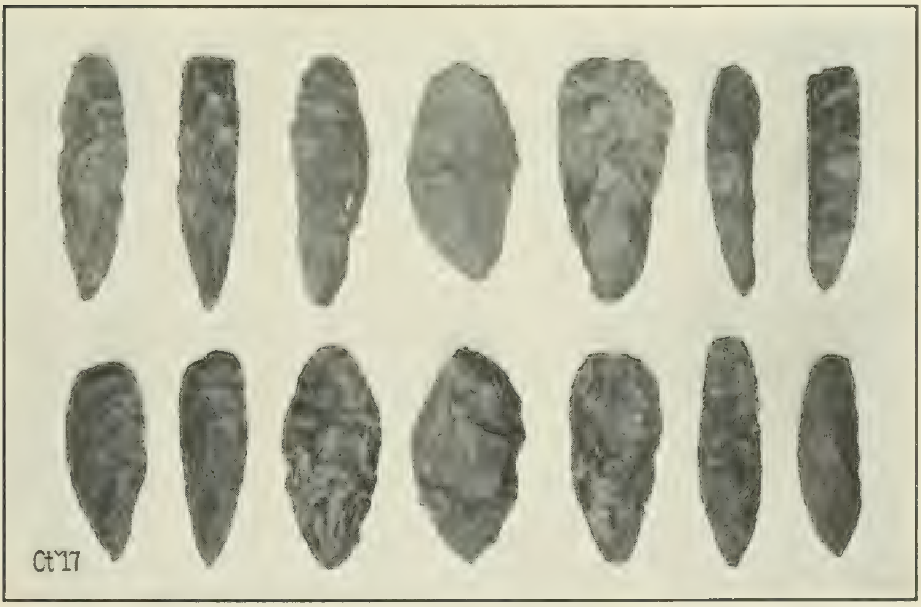
a, Burial No. 4, Site Ct^{v} 17.



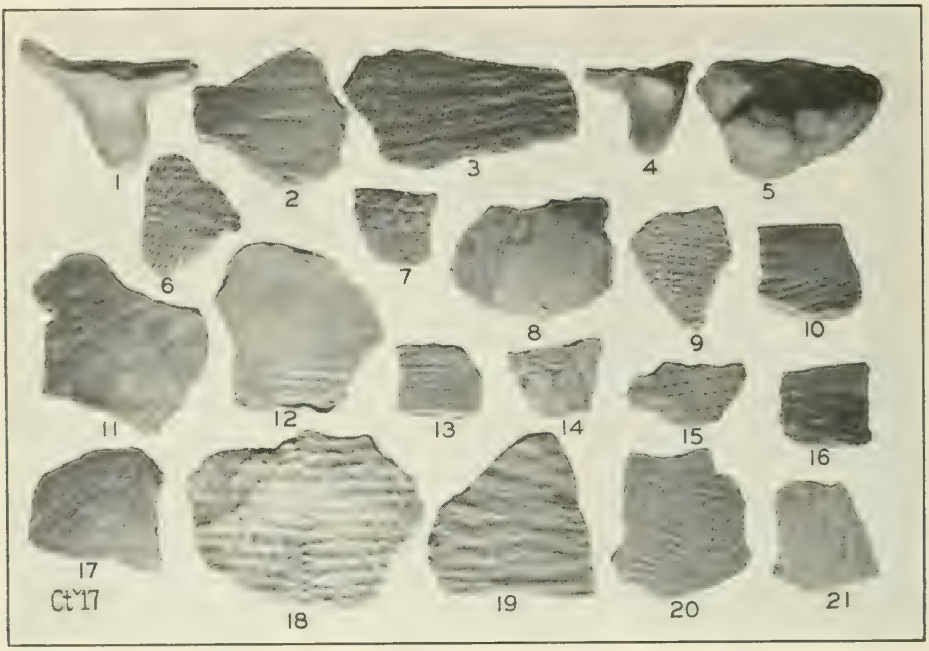
b, Burial No. 8, Site Ct^{v} 17.



a, Stemmed projectile points, Site Ct^{v} 17.



b, Simple flint blades, Site Ct^{v} 17.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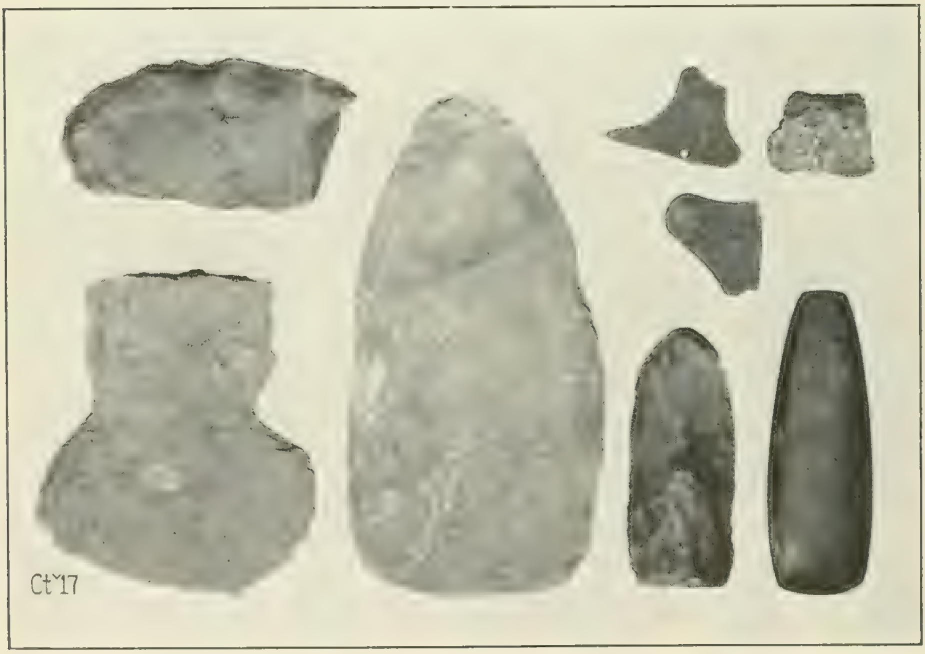
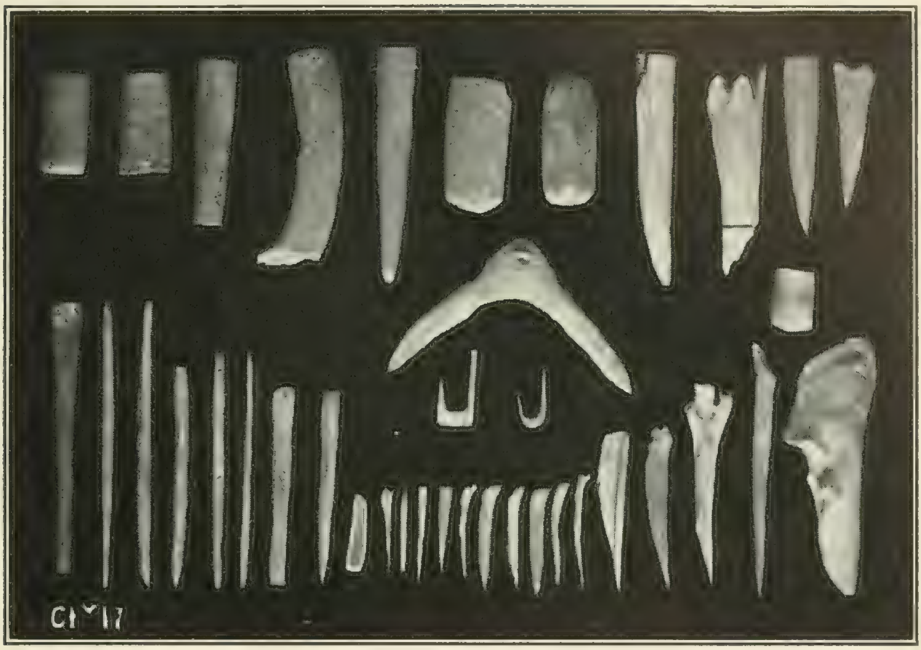
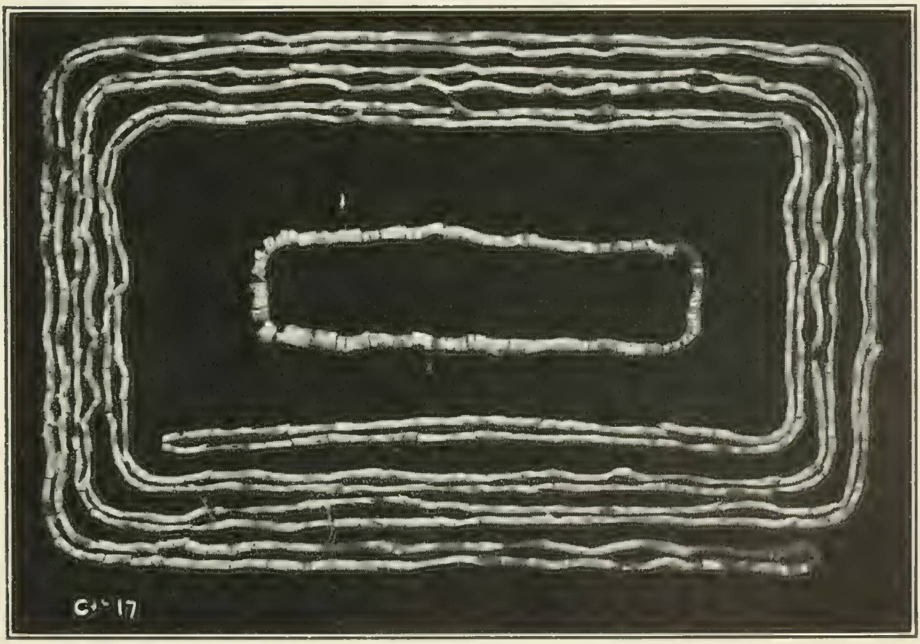
a, Miscellaneous sherds, stamped and paddled ware, Site Ctᵛ 17.



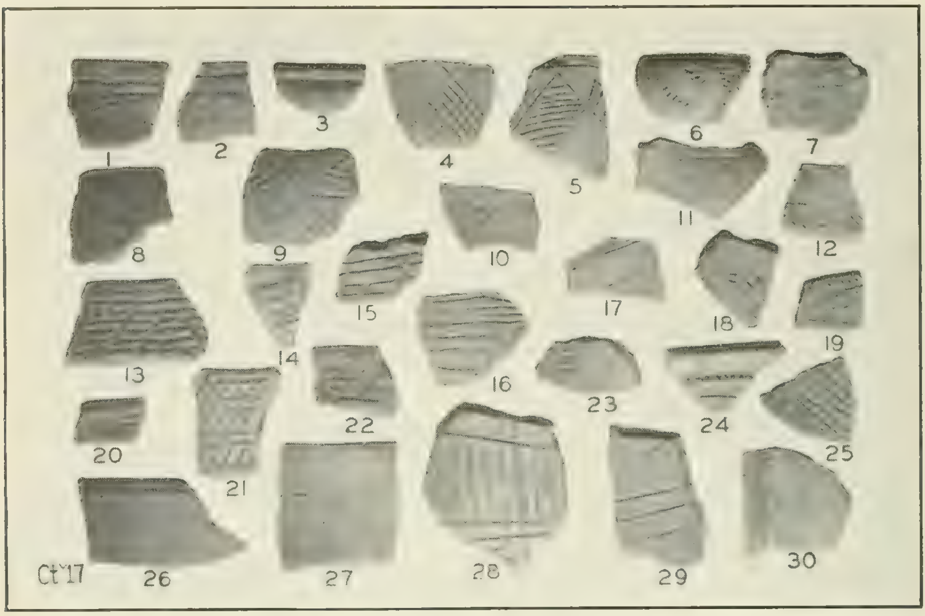
b, Stone artifacts, Site Ctᵛ 17.



a, Bone artifacts, Site Ctᵛ 17.



b, Shell beads from Burial No. 7, Site Ctᵛ 17.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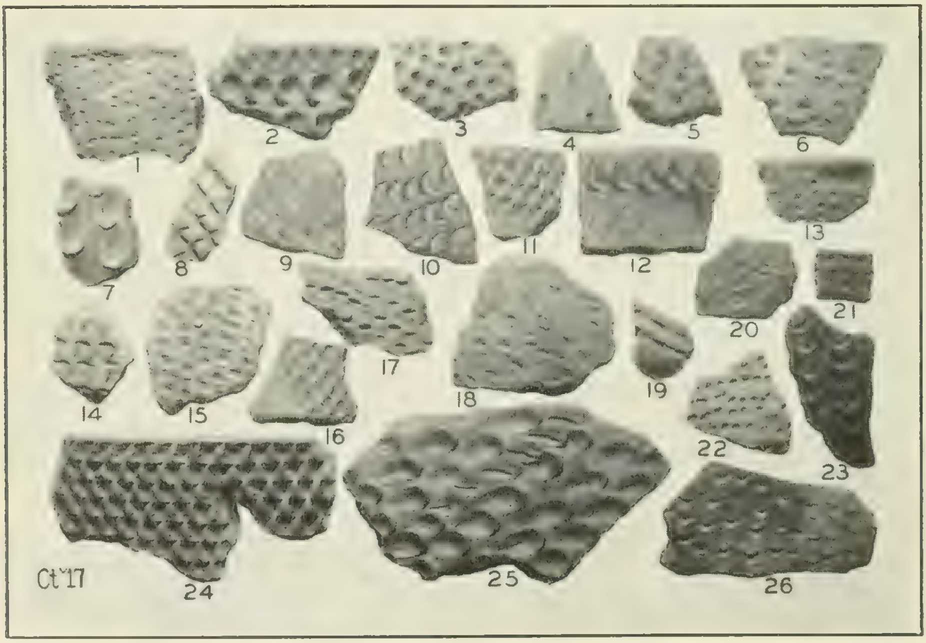
a, Incised decorated sherds, Site Ctᵛ 17.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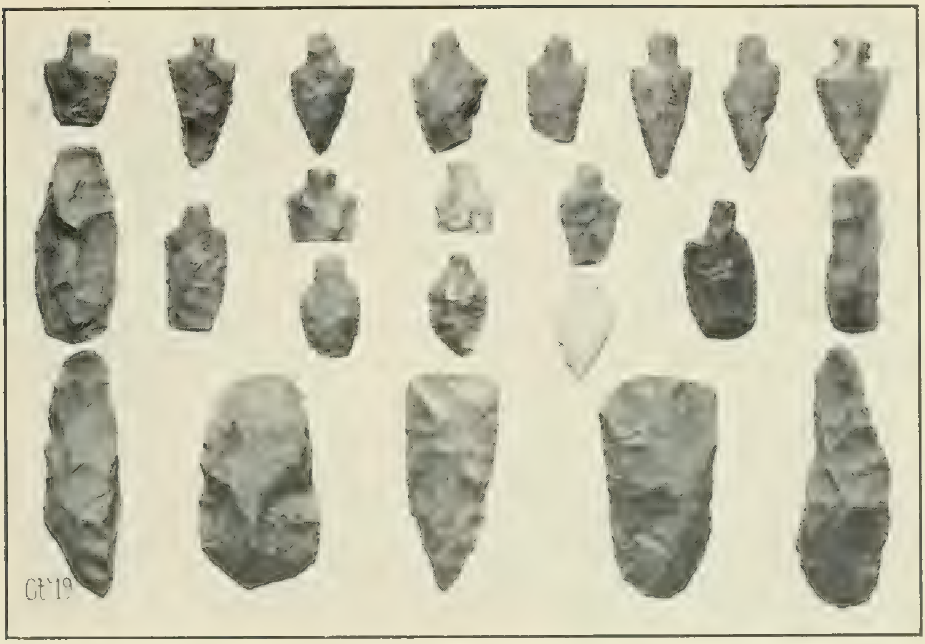
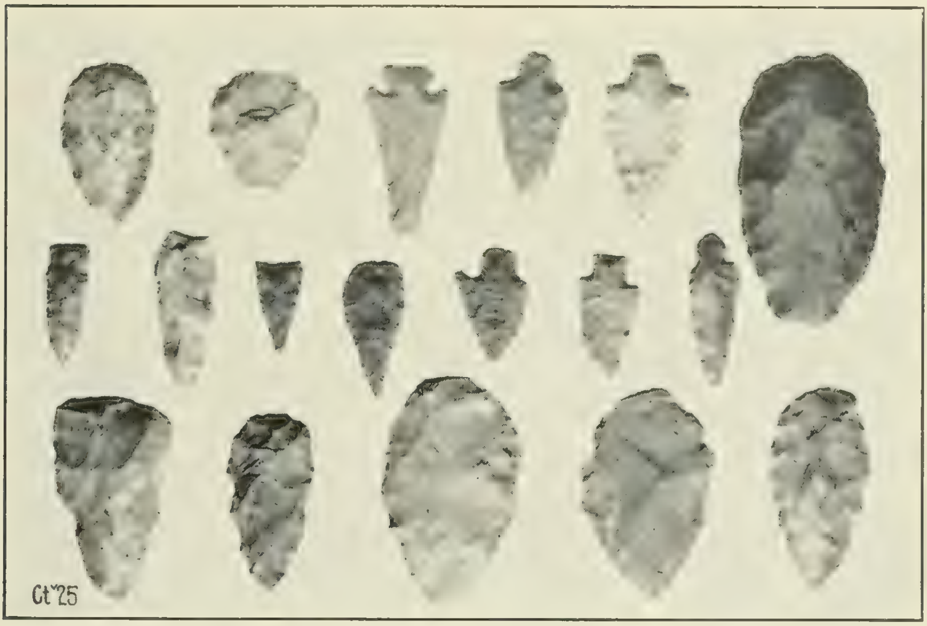
b, Intaglio decorated sherds, Site Ctᵛ 17.



a, Surface collections, Site Ct^{v} 19.



b, Surface collections, Site Ct^{f} 25.

SITES Ct^v 19, Ct^v 24, Ct^f 25, AND Ct^f 29

Sites Ct^v 19 and Ct^v 24 were located on the Mary Garner property at the mouth of Cane Creek on the Tennessee River, in Colbert County, Ala. Their location and orientation are shown in figure 8. These sites represented small village sites which had been raised above the level of the flood plain by the accumulation of midden material containing a large proportion of shell.

Test pits were put down to determine the extent of the occupation in the general region. On the surface of the low mounds, where occupancy was definite, there was an accumulation of flint material which spread beyond the general region of the midden area. This would seem to indicate that after the general region ceased to be used as dwelling sites it was used extensively as shop sites. Investigation revealed that the midden material was not deep and probably represented a rather brief occupancy.

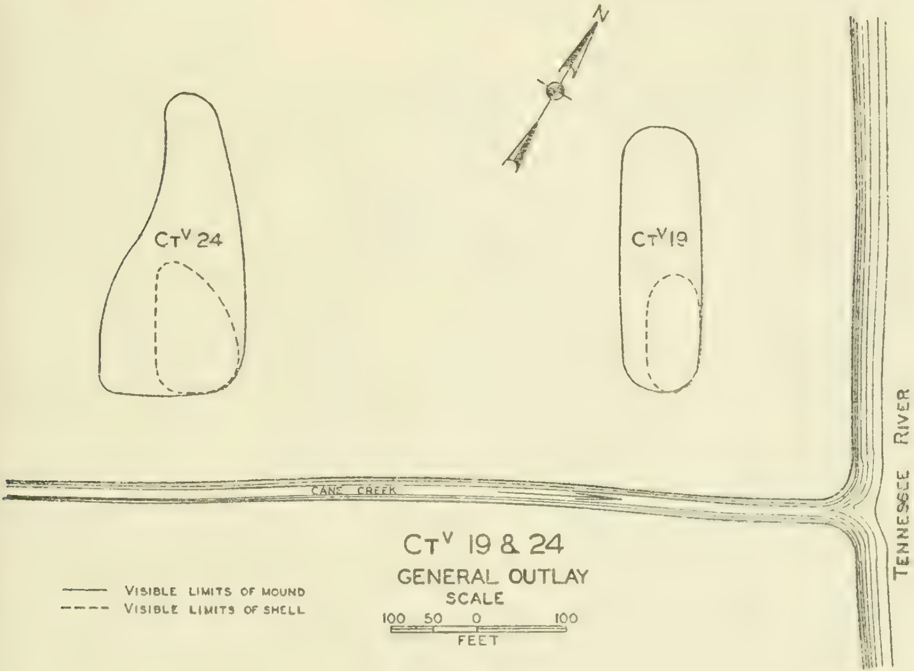


FIGURE 8.

Surface collections were made which consisted of hammerstones, discoidals, flint knives, projectile points, and a few potsherds on Site Ct^v 19. The projectile points were mostly stemmed, as shown in plate 31, *a*. The knives and scrapers were quite crude.

From Site Ct^v 24 the surface collection contained one limestone hoe and many hammerstone scrapers, flint knives, and projectile points. The projectile points were similar to those from Site Ct^v 19. A small quantity of plain potsherds were found.

Sites Ct^{f} 25 and Ct^{f} 29 were workshops located on the northwest side of Cane Creek. Ct^{f} 25 was 1,600 feet above the mouth of the creek on the first level above the flood plain. Ct^{f} 29 was just above the right-angle bend in Cane Creek, one-half mile above its mouth. It was also on the first terrace above the flood plain.

Much worked material was found on the surface at each of these sites. Plate 31, *b*, shows some selected material from Site Ct^{f} 25. The material here was a poor grade of flint and the chipping was crude. Of the better worked projectile points most of them were of the stemmed forms.

SITE La^{o} 37

Site La^{o} 37 was located on the Hood Harris property in township 4 S., range 8 W., in the NE. quarter of section 34, in Lawrence County, Ala. It lay approximately 100 yards east of Big Nance Creek, one-fourth of a mile upstream from the Hood Harris home, and about 4 miles from the mouth of the creek. The nearest point on the Tennessee River was 2½ miles away, near the head of Tick Island.

The mound was composed of fine yellow sand similar to that found along the nearby creek, and as it was located in the creek flood plain it stood out as the only prominence of any importance, its conical shape being evident in spite of a growth of large trees and brush covering the slopes. Plate 32, *a*, shows the mound after it had been cleared of undergrowth. The most marked feature of the mound was a trench which "pot hunters" had cut through the center in a north-and-south direction (pl. 32, *b*). At the time of this investigation this trench was about 3 feet deep and tapered down from a width of 10 feet on the north side to about 3 feet on the south. It had the appearance of a narrow trench which had been dug down to the mound floor and had been partially refilled by earth falling from the walls.

Mr. Hood Harris, who had kindly consented to allow the excavation, said that within his knowledge only two attempts had been made to dig into the mound. The first was about 1890, when his mother had a tenant farmer dig a pit somewhere in the north side of the mound. This man excavated only a small pit when he claimed he ran into "lots of bones" which frightened him, so "he quit digging and went back to farming where he belonged." The second attempt was by a party from the Alabama Museum during the summer of 1933, while they were making a survey of the archaeological resources of the region. This investigation was very hasty. The only find reported was a large stone implement on the surface of the old excavation.

In 1916 a flood washed gullies in the flood plain surrounding the mound and many skeletons and an abundance of artifacts were exposed. Mr. J. G. Sanderson, the postmaster of Courtland, Ala., collected the artifacts.

A careful search was made by the supervisors of this project for surface indications of a village or cemetery on this site, but no artifacts or bones were found except in the mound itself. The recent floodings had deposited silt over the whole region, which may have partly accounted for the lack of surface finds. The whole flood plain had been cultivated at one time or another, but the slope of the mound and its heavy growth of brush and trees had kept it from further mutilation.

The cone was symmetrical to the eye, being a little over 9 feet high and having a basal diameter of about 70 feet. The entire mound was made of yellow sand; below this was a 20-inch layer of red sand, in which intrusive pits were found. Under the red sand was a layer of white sand of indeterminate depth, which seeped water at 2 feet, causing an abandonment of deeper exploration. The yellow sand showed no stratification and was loosely packed, which made for rapid excavation. The red sand below showed no definite stratification but slight streaks of a lighter colored sand were present, which, along with its hard packing, showed it to be an undisturbed layer. Profiles of this mound are shown in plate 33, *a*, *b*.

The heavy growth of large trees and brush on the mound had caused a 2- or 3-inch accumulation of humus material. This layer must have acted somewhat as a roof, preventing a great amount of water seepage from rains. However, what water did sink through to the sand must have been sufficient to do great harm to bone material beneath. The pit dug in the top of the mound must have accelerated decomposition, for it acted as a broad well with a sandy bottom through which water would quickly flow into the base of the mound. The sand itself offered good drainage, but as the ground on which the mound stood was low the water table must often have stood above the lowest bones for a period of weeks at a time. The best preserved bones were near the top of the mound, which seemed to show that better drainage was an important factor in preservation on this site.

In several places the only bit of skeletal material found was in association with copper. One tooth was found colored green and in another place a bit of scapula was found preserved and discolored by the copper salts. Several bits of rib under a greenstone celt, bits of skull, teeth, and in one pit merely pieces of long bone, showed that the disintegration of bone material was nearly complete. As compared with other sites in this vicinity, this skeletal material was by far the most completely disintegrated. This might show that either the site was more favorable for the disintegration of bone or that it was much older than any of the others excavated.

Method of Excavation

The mound was first cleared of undergrowth and staked off in 5-foot squares by establishing a base line along the western side of the mound, as shown in plate 32, *b*. Across the mound E.–W. were twelve 5-foot blocks and lengthwise of the mound N.–S. there were 14. Starting at the base line on the western side, the mound was cut down by slicing it in 1-foot layers 5 feet wide. Each 5-foot slice was carried to the floor of the mound, so that a level floor and a straight vertical profile could be seen as the work proceeded, as shown in plate 33, *a*. There was no evidence of stratification in the soft sand, which offered little resistance to the workmen. Several large trees were growing on the mound. These were removed by digging around them and letting them fall over, thus pulling out the roots. This method of procedure made it difficult to maintain levels but it could not be avoided. As there was almost unlimited man power available, one man was put to each 5-foot square and the mound worked in from four sides simultaneously. Test pits were sunk into the floor from time to time but no evidence was seen of anything lying deeper. However, on reaching the floor near the center of the mound, a pit was detected by the blackness of the soil in the pit in contrast to the heavy red sand of the floor. All the earth above the mound floor was removed and when the entire floor was bare it was restaked and excavated. Beginning on the edge of the mound, the floor was taken down in 1-foot levels and worked in from all four sides as before. Twenty-nine inches below the previously determined floor white sand was found and a test pit sunk into this struck water at a depth of 24 inches. Each pit was cut around and left as a pedestal which was worked down by hand, using a trowel for digging. When all the soil had been removed and the mound thoroughly worked the sand was restored to the hole and the entire area left suitable for plowing.

Burials

The mound undoubtedly was a burial mound, although most of the skeletons had gone to pieces. In the upper levels of the mound small fragments of human bone were encountered but they were so very fragmental that in most cases the individual bone could not be identified and there was no evidence of any association. The first skeleton encountered appeared to be a bundle burial, as only the skull, a few fragments of vertebrae, and several sections of long bones were present.

Burial No. 2 was so fragmental that it was identified as a burial by stains in the sand, by the position of the fragments, and by accompanying artifacts, rather than by the bones themselves. It occurred in almost the exact center of the mound and at a depth of 46 inches. In a general north-and-south line was found the base of a skull and a few teeth; the frontal and temporal bones were mere grains of dust in the sand but clearly showed that the skull had been turned toward the east. Twenty-four inches from the skull and on the same level were two fragmental vertebrae and some 2 feet farther two fragments of tibiae. Lying parallel to the body and in a position that would have been on the chest was the steatite effigy pipe shown in plate 41, *b*, and beside it were two balls of galena.

At various places throughout the mound the remains of skulls were found. In general there was nothing tangible which could be recovered. The position of a skull would show as a small hollow mold, containing granular bone and a dark stain in the yellow sand. Under one celt three fragments of rib were found in order as though the celt might have been laid along the chest of a man, but no other evidence of bone was visible; not even teeth were present. Those skulls which had retained their form were placed, for the most part, in a vertical position, but were not given any special orientation. With the possible exception of burial No. 2 in the center of the mound, all other burials in the mound proper seemed to be inclusive, since there was no evidence of intrusion. The burials were regarded as reburials of bones, or bundle burials, which may account in part for the poor condition of the bones.

When the mound had been entirely removed and the natural heavy red sand floor had been uncovered there were found seven areas which had been previously disturbed. In these areas the red sand had been excavated and a pit formed, which had been refilled with some of the same material removed. In the operation of excavation, however, some humus-filled yellow sand had been mixed in the refill. These pit areas were clearly marked and after restaking the mound were excavated separately, as shown in plate 35, *b*.

Plate 34, *a*, shows pit No. 1 outlined by a trowel line. The line was drawn to follow the darker stain in the sand. All pits in the mound floor were excavated by trenching around them into the undisturbed red sand, leaving the pit and contents as a pillar, and then cutting them down by hand troweling. This insured obtaining a maximum of information. Plate 34, *b*, shows pit No. 1 encircled by a trench and ready to be excavated. The purpose of this pit is problematical. It was very nearly under the center of the mound, and when cut down revealed two interlocked copper reel-shaped objects shown in situ in plate 35, *a*. These beautiful objects had been laid on a woven textile and had also been covered with the same material. It is conceivable that they had been placed in a woven bag. They were laid on the floor of the pit and the copper salts had preserved the textile in contact with the metal. Nothing else remained. There were no other artifacts, and no evidence of any burial. No skeletal material was found in the pit and the sand on the bottom of the pit was clean and unstained.

Pit No. 2 contained nothing, but was shorter and broader than the other pits. However, at the edge of this pit was found a string of copper beads. Plate 36, *a*, shows the base of the mound staked off with pit No. 3 in the foreground and pits Nos. 6 and 7 in the distance ready for troweling.

Plate 36, *b*, shows the outline of pit No. 3. It presents the color contrast between the disturbed and undisturbed sand. When pit No. 3 was cut down a very highly polished greenstone celt was found at the same level with three bone fragments, possibly tibia, as shown in plate 37, *a*.

Pit No. 4 was found to contain nothing.

In pit No. 5 was found a string of copper beads and one human molar. Whether the molar was part of the necklace or the sole remaining part of the burial could not be ascertained.

Plate 37, *b*, is a close-up of a pillar containing pit No. 6. Its form suggests an extended burial. When it was excavated there was found a very large greenstone celt, a badly corroded copper object, and a large ball of galena, placed as shown in plate 38, *a*. Here again there was no evidence of any skeletal material and one may infer burial in this pit only by its form and the placement of artifacts.

Plate 38, *b*, shows the pillar containing pit 7, which again suggests an extended burial. This pit contained one small fragment of long bone and on the very edge of the pit, at the bottom, a pile of artifacts, as shown in plate 39, *a*. In this pile were a steatite pipe, broken into two halves, a copper reel-shaped object, complete, and the two halves of a larger copper reel-shaped object much bent and twisted. It could hardly be doubted that the single bone fragment represents the last residue of a skeleton and the pile of artifacts a mortuary offering. That the pipe was intentionally broken and that the large copper reel had been bent back and forth on itself until it broke there can be no doubt. These objects show in themselves the manner of destruction practiced and certainly suggest ceremonial "killing." Plate 39, *b*, shows the placement of these objects on the edge of the pit.

The horizontal placement of pits and separate artifacts are shown in figure 9. The vertical placement of artifacts is shown in profiles presented in figure 10.

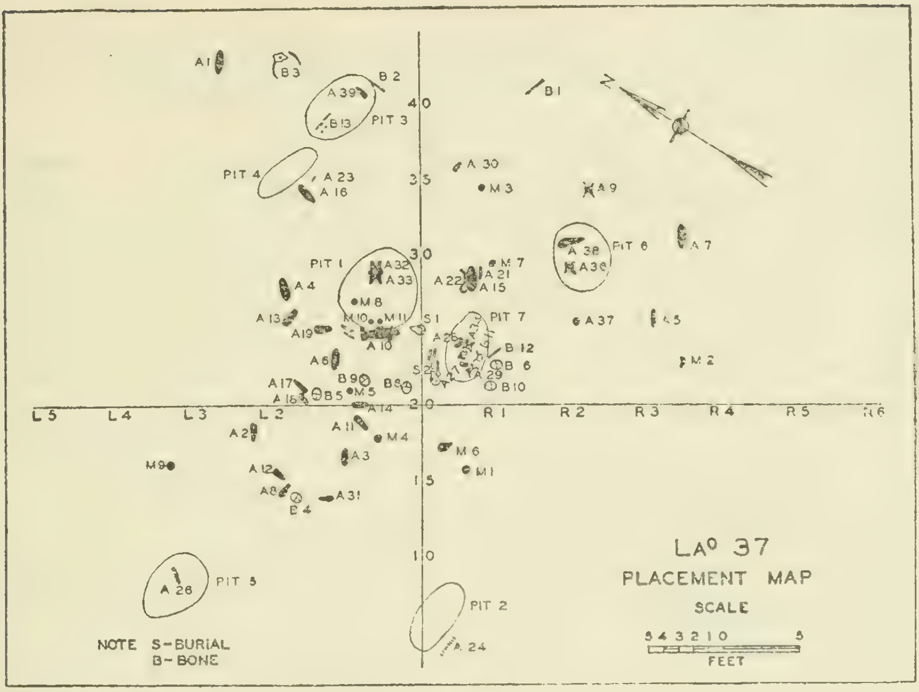

LA° 37
PLACEMENT MAP
SCALE
5 4 3 2 1 0 5
FEET
NOTE S-BURIAL
B-BONE
PIT 1
PIT 2
PIT 3
PIT 4
PIT 5
PIT 6
PIT 7
N
L 5
L 4
L 3
L 2
R 1
R 2
R 3
R 4
R 5
R 6
40
35
30
20
15
10
A 1
B 3
B 2
A 39
B 13
B 1
A 30
M 3
A 9
A 23
A 16
A 7
A 38
A 36
M 7
A 32
A 33
A 21
A 22
A 15
A 4
M 8
A 13
M 10
M 11
S 1
A 37
A 5
A 19
A 10
A 26
B 12
B 6
M 2
A 6
S 2
A 29
B 10
A 17
B 9
B 8
A 18
B 5
M 5
A 14
A 2
A 11
M 4
M 6
A 3
M 9
M 1
A 12
A 8
A 31
B 4
A 26
A 24

FIGURE 9.

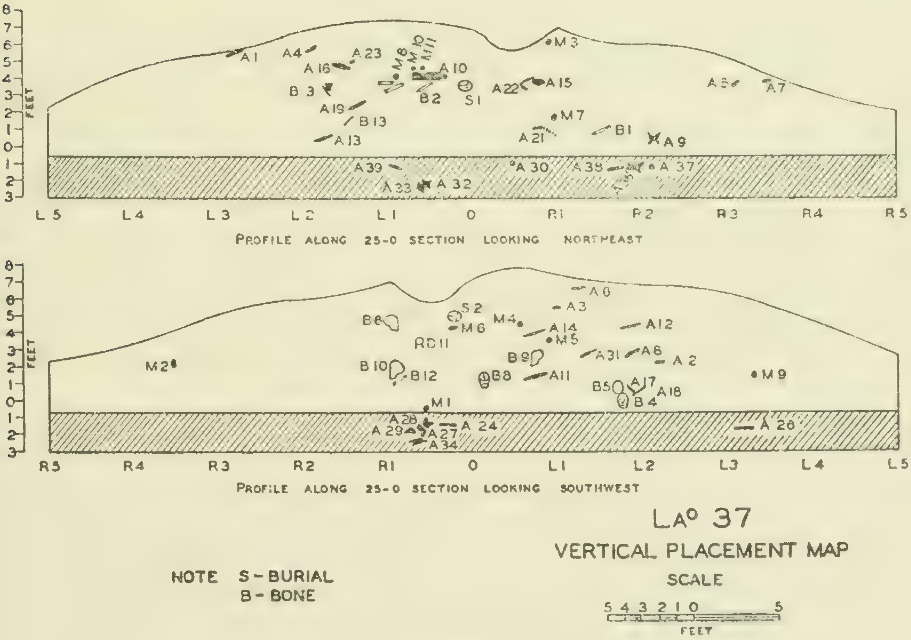

FEET
8
7
6
5
4
3
2
1
0
1
2
3
L 5
L 4
L 3
L 2
L 1
0
R 1
R 2
R 3
R 4
R 5
A 1
A 4
A 23
A 16
M 8
M 10
M 11
A 10
B 3
B 2
S 1
A 22
A 15
M 3
A 5
A 7
A 19
B 13
M 7
A 13
A 21
B 1
A 9
A 39
A 30
A 38
A 36
A 37
A 33
A 32
PROFILE ALONG 25-0 SECTION LOOKING NORTHEAST
R 5
R 4
R 3
R 2
R 1
0
L 1
L 2
L 3
L 4
L 5
A 6
A 3
B 6
S 2
M 6
M 4
A 14
M 5
A 12
RB 11
B 9
A 31
A 8
A 2
M 2
B 10
B 12
B 8
A 11
B 5
A 17
A 18
B 4
M 9
M 1
A 28
A 29
A 27
A 24
A 34
A 26
PROFILE ALONG 25-0 SECTION LOOKING SOUTHWEST
LA° 37
VERTICAL PLACEMENT MAP
SCALE
5 4 3 2 1 0 5
FEET
NOTE S-BURIAL
B-BONE

FIGURE 10.

ARTIFACTS

The total number of artifacts removed from the mound was 49, distributed as follows:

Copper beads	strings	5
Copper reel-shaped objects		5
Copper spool		1
Flint	small chip	1
Galena balls		11
Greenstone celts		11
Greenstone spades		8
Limestone spades		1
Matting	occurrence	2
Pipes		2
Slate spades		1
Textile material	occurrence	1

The copper beads were found in many and various positions. One string of 69 small beads showed no evidence of being in association with any pit or object. The beads were in place for the most part, as the string had been preserved by the copper salts. Another string of 41 was made of large and well-shaped beads. These occurred in association with a large greenstone spade but with no relation to any other artifact or burial in the mound. Two beads resembling each other very closely were found a considerable distance away and there was no evidence of there being any other association. In excavating around pit No. 2 a string of copper beads was discovered outside the pit. These were lying on a small fragment of matting which had been preserved by the copper salts. The manner of construction of these beads could plainly be seen. The copper had been beaten or rolled into short lengths and then rolled into a cylinder to form a bead. In pit No. 5 was found a string of 27 copper beads, and in this case also the cord on which they were strung was so well preserved that the manner in which it had been made could plainly be seen. Unfortunately, a workman struck them with his shovel and thus it was impossible to obtain a picture of the string of beads in place. The copper beads are shown in plate 41, *a*.

Five copper reel-shaped objects were found, every one in a pit, and some probably in association with burials. These objects were all of the same general reel-shaped pattern and in various states of preservation, depending upon the thickness of the copper. Two copper reels, taken from pit No. 1, are shown in plate 40, *b*. They are very nearly the same size and differ but little in general form. They are 9 inches in extreme length and 6.75 inches in extreme breadth. The largest diameter, a diagonal, is 10.5 inches long. They are made from copper five thirty-seconds inch in thickness and the width of the central bar is 1⅞ inches. One of these objects had two perforations symmetrically placed. The breadth of the central bar at the two holes is 4⅜ inches.

Two badly corroded copper reels are shown in plate 41, *a*, which were taken from pits Nos. 6 and 7. In the lower left-hand corner of the figure is shown a copper spool, found in the general digging of the mound. It was not near any burial or other artifact and seemed to be a chance inclusion. It was made of a double sheet of thin copper, rolled into a cylinder and flared at the ends. Over the ends a copper cap had been added and pressed in at the center to present a concave surface. About the center of this spool strands of fiber had been wound, which was well preserved and seemed to indicate that this was a true spool for use in holding thread. However, had this object occurred in association with a burial it might have been regarded as an ear ornament.

Scattered through the mound were 11 large balls of worked galena. At one time probably brightly polished, they were now badly oxidized. One lump occurred in pit No. 6, as shown, and two were found in association with the steatite effigy pipe. These two pieces were evidently parts of the same lump at one time, for they could be fitted back together; however, the break was an old one. The remaining eight balls of galena were scattered through the mound without any definite association with burials or other artifacts.

The steatite elbow pipe taken from pit No. 7 was easily restored, as shown in plate 40, *a*. It was highly polished and beautifully worked. The bowl height was 4⅜ inches and the stem length was 3⅞ inches. The diameter of the bowl outside was 2⅛ inches and inside 1⅝ inches.

The effigy steatite pipe seems to represent a dog. Its greatest length is 16¼ inches and maximum height 6⅛ inches. This pipe had lost a portion of one hind leg and a tip of one ear, and was beginning to disintegrate at the tip of the tail and at the nose. When removed from the mound it began to dry out and the surface began to scale off. A coating of ambroid prevented further deterioration. In plate 41, *b*, this pipe is shown with small restorations of missing parts.

The mound was especially rich in greenstone celts. In all cases these were highly polished with a double bevel on one end and were tapered to a point on the other end. Strange to say, on each of the 11 celts the small tapering end was chipped. The celts varied in length from 17.5 inches to 6.75 inches, with the width proportional.

The largest celt was taken from pit No. 6 and from its position was probably laid at the head of a burial. In pit No. 3 a small greenstone celt, lying crosswise in the pit, was found. In the mound proper two beautifully polished celts were found lying in association with one another and with several small fragments of bone, indicating a burial which had completely disintegrated. In one other case, when a celt was removed, three fragments of ribs were found directly under the celt but no other indications of a burial. The rest of the celts occurred at different levels throughout the mound without any seeming relation to anything. Their position is shown in figures 9 and 10. In plate 42, *b*, there is shown three of these beautiful greenstone celts from the mound. Their lengths are as follows: top, 13.25 inches; center, 12.25 inches; lower, 14 inches.

The mound contained eight greenstone spades, large, massive and crude, but revealing different degrees of workmanship and polish. In removing the debris from the surface the first greenstone spade was found (pl. 42, *a*). This was an instrument 21 inches in length and about 3.5 inches wide, but otherwise of no special interest. In all cases the spades were nothing more than oblong slabs of stone rounded and polished on the ends, and in some instances over the entire surface. In many cases the polish on the ends was due entirely to use. They had all been brought to approximate form by fracture before being used. All the greenstone spades were found in the mound proper and within 3 feet of the surface. One limestone spade, broken and badly weathered, was found and one shale spade was located; neither of which were of special interest. No spade was found in any pit or in any association with a burial. Probably they are not to be regarded as agricultural implements, but rather as a convenient tool used in digging the pits for burials and in digging the earth to carry up on the mound. Their incorporation in the mound is thought to be due to chance inclusions. Their use in connection with the building of the mound accounts for their presence on the site, and as the mound was probably raised in successive stages as additional burials were added these spades were lost on the mound and covered over by later additions of sand.

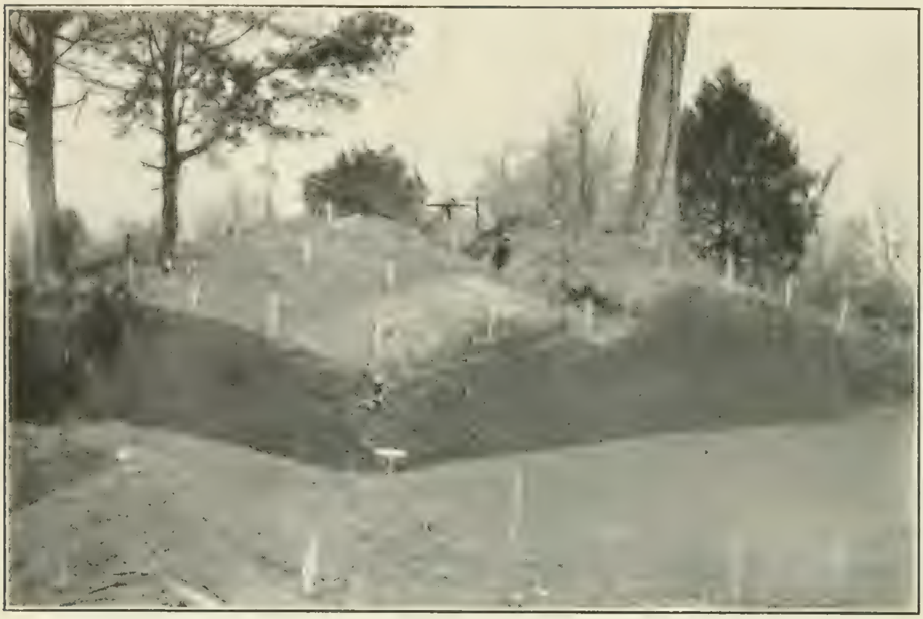
Conclusions

Site La° 37 was characterized by the following things:

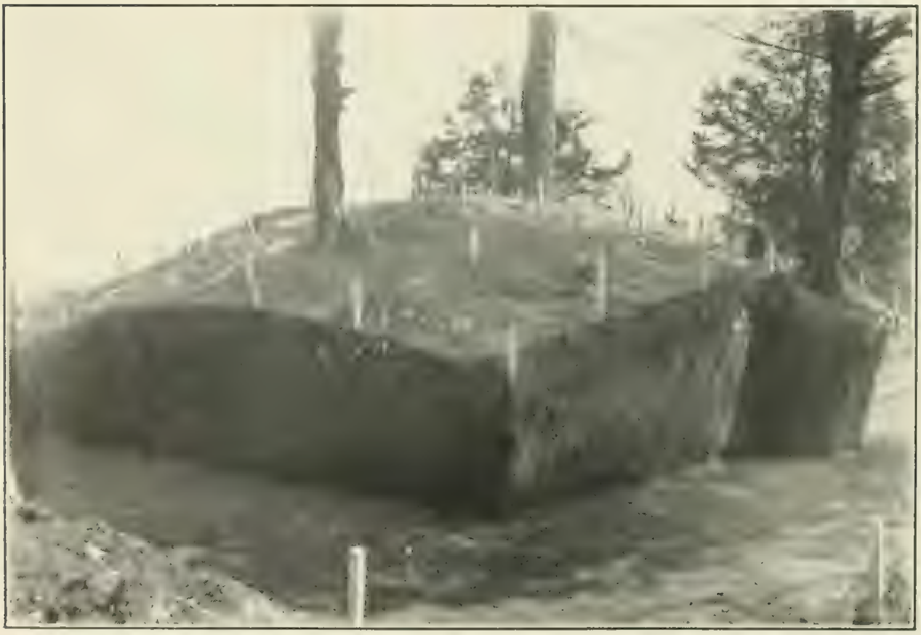
1. Built entirely of clean sand. No evidence of village refuse in the mound.
2. Contained a great number of greenstone artifacts, such as celts and spades.
3. A great number of copper ornaments but no evidence of copper having been used for utilitarian purposes.
4. Absence of any well-preserved burials.
5. Absence of any flint artifacts.
6. Absence of any pots or potsherds.
7. Absence of any bone artifacts.

a, View of mound from west, Site La° 37.

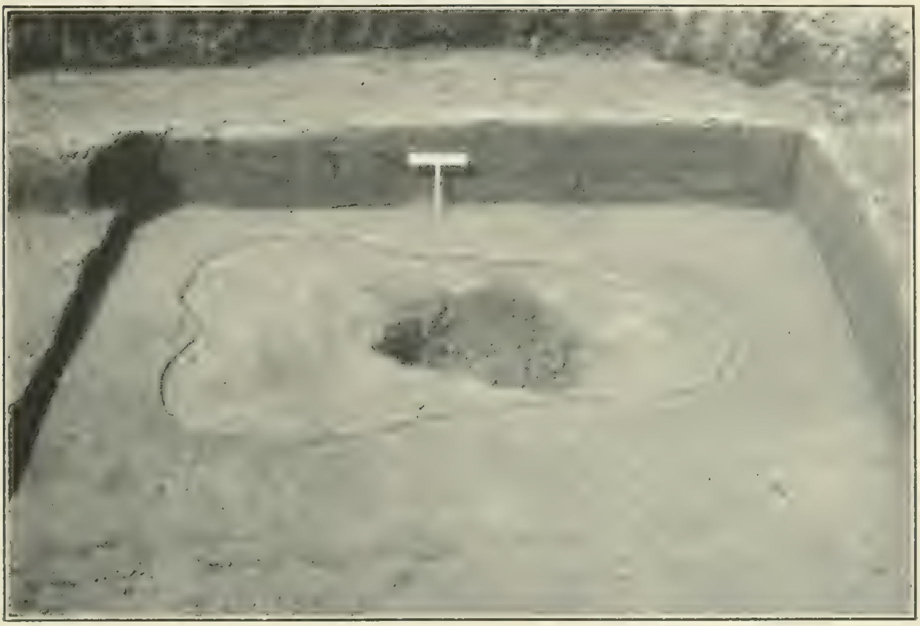
b, Excavation starting, Site La° 37.



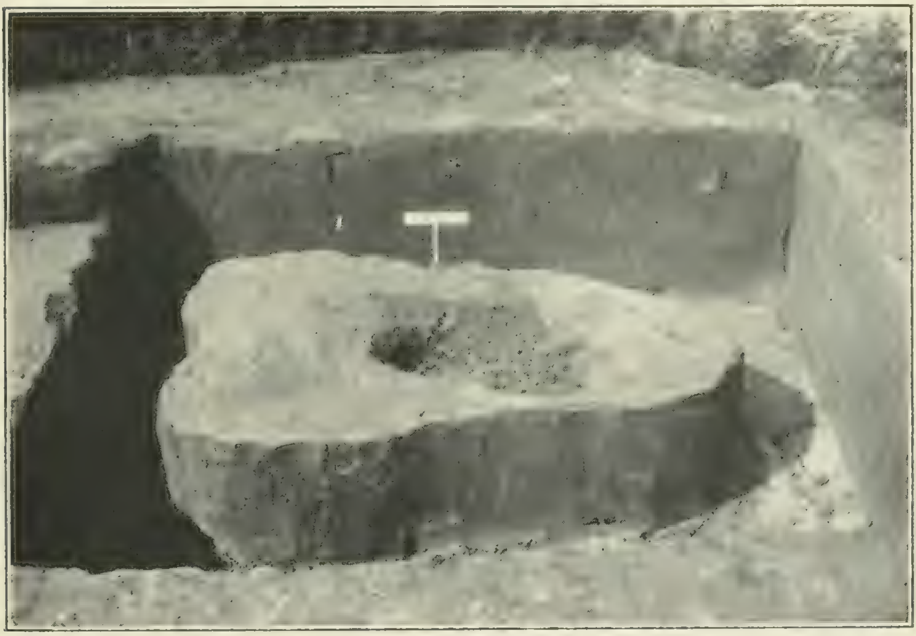
a, South and west profiles, Site La° 37.



b, North and west profiles, Site La° 37.



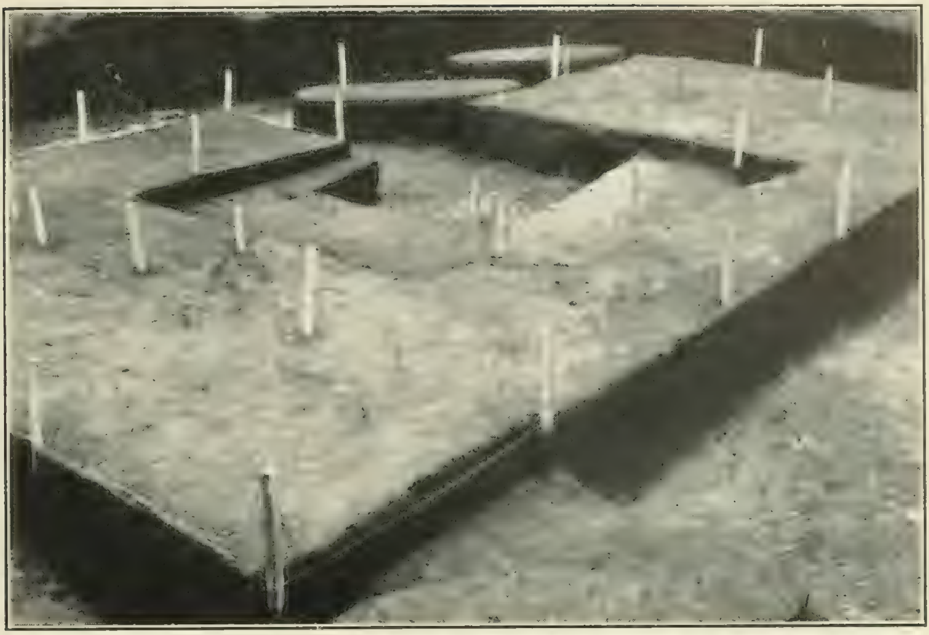
a, Outline of Pit No. 1, Site La° 37.



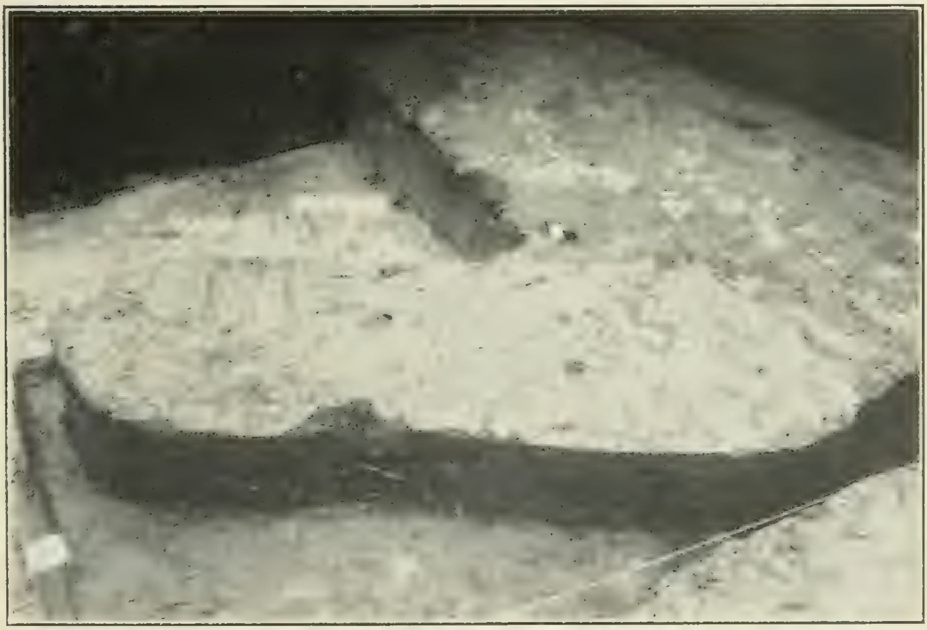
b, Trench about Pit No. 1, Site La° 37.

a, The find in Pit No. 1, Site La° 37.

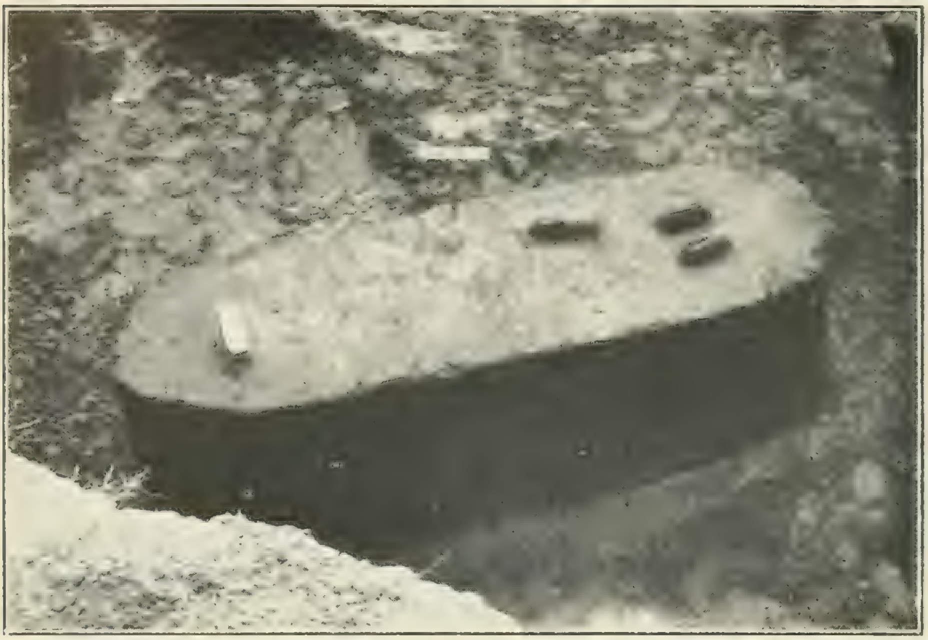
b, Base of mound, Site La° 37.



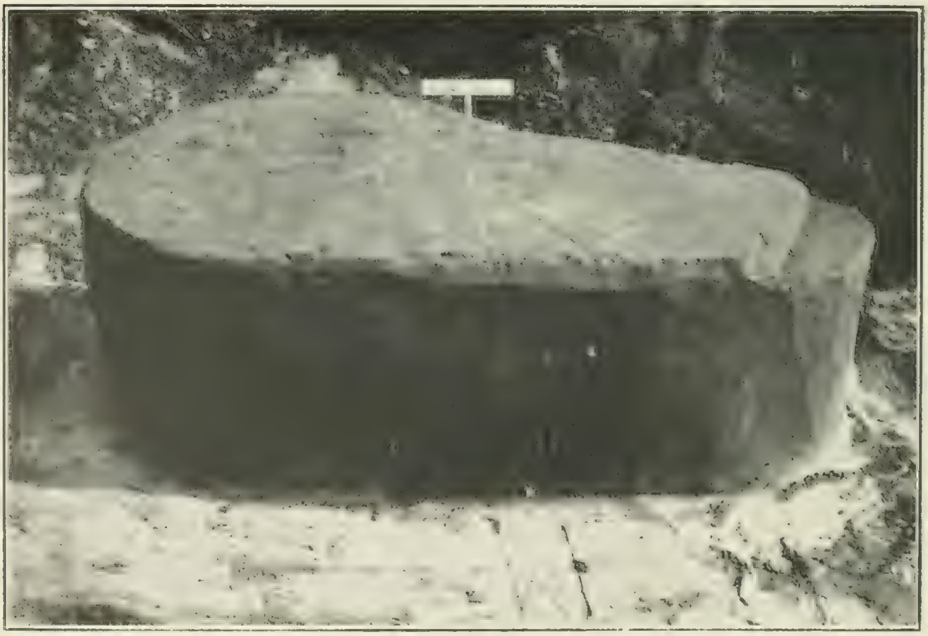
a, Method of excavation around pits, Site La° 37.



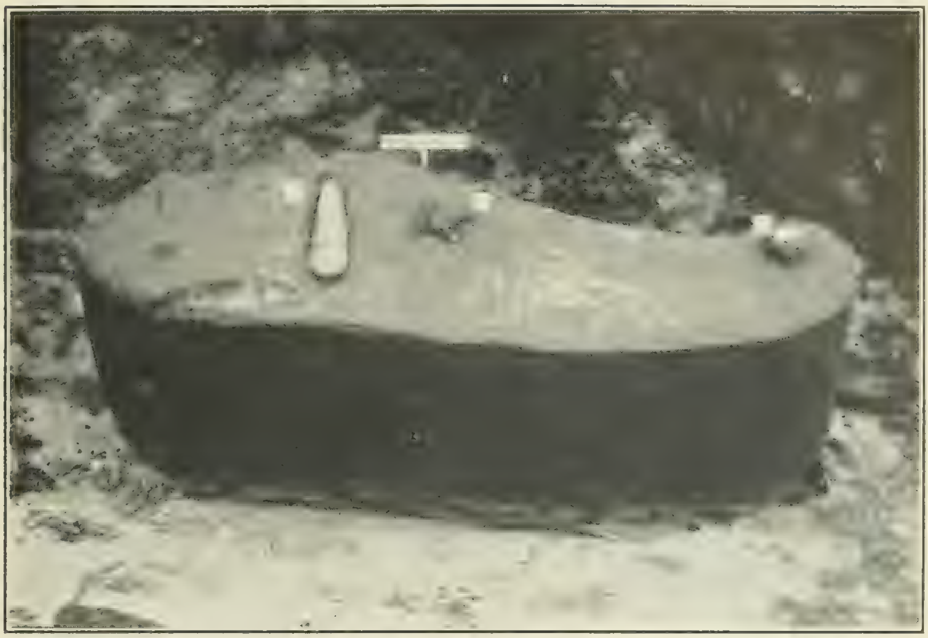
b, Outline of Pit No. 3, Site La° 37.



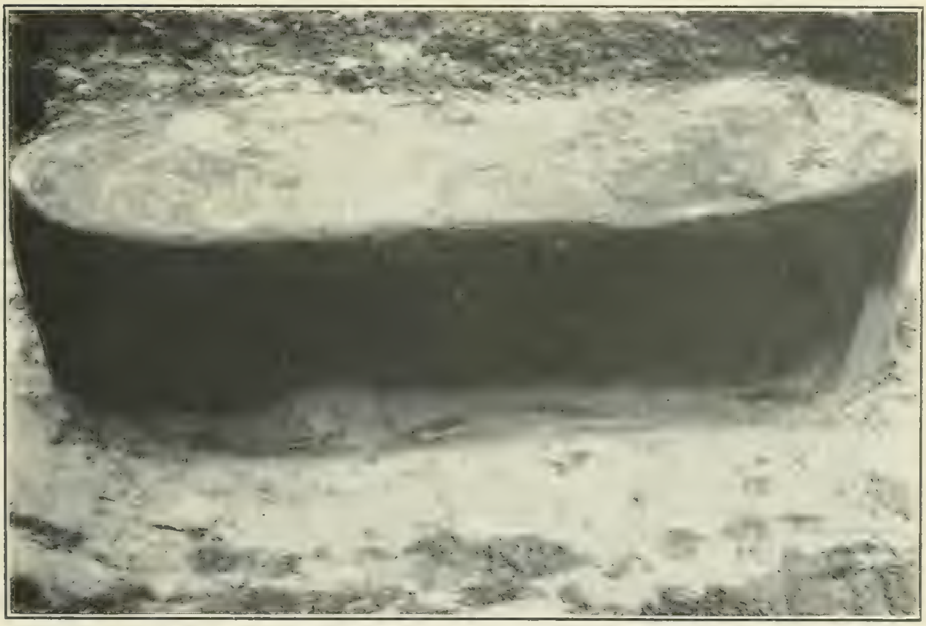
a, Pit No. 3 after excavation, Site La° 37.



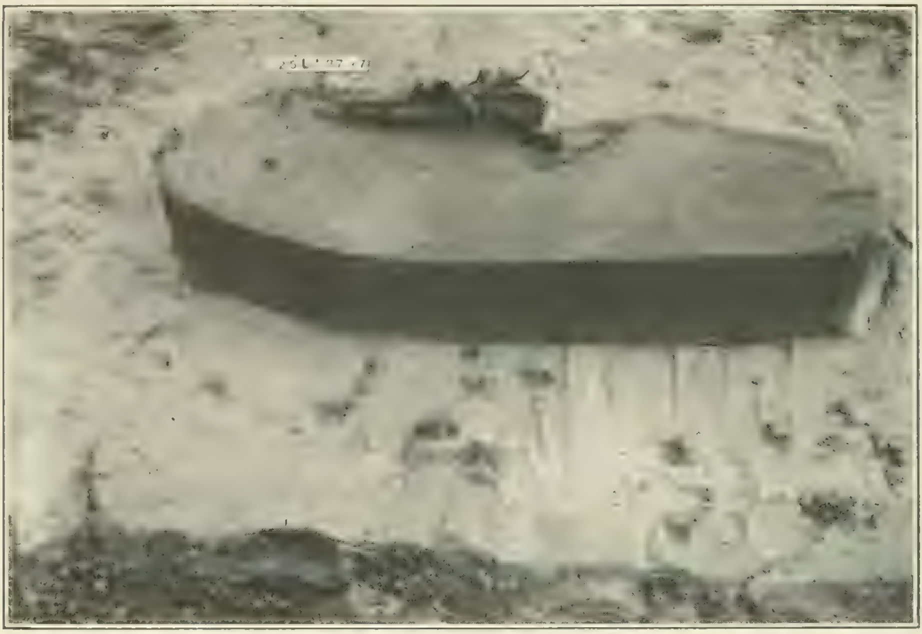
b, Trench around Pit No. 6, Site La° 37.



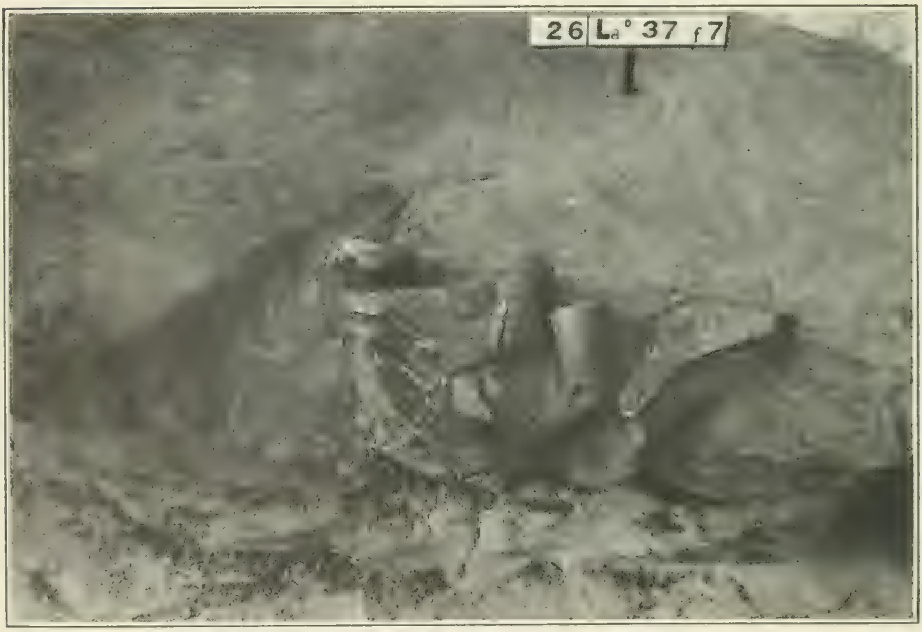
a. Pit No. 6 excavated. Site La° 37.



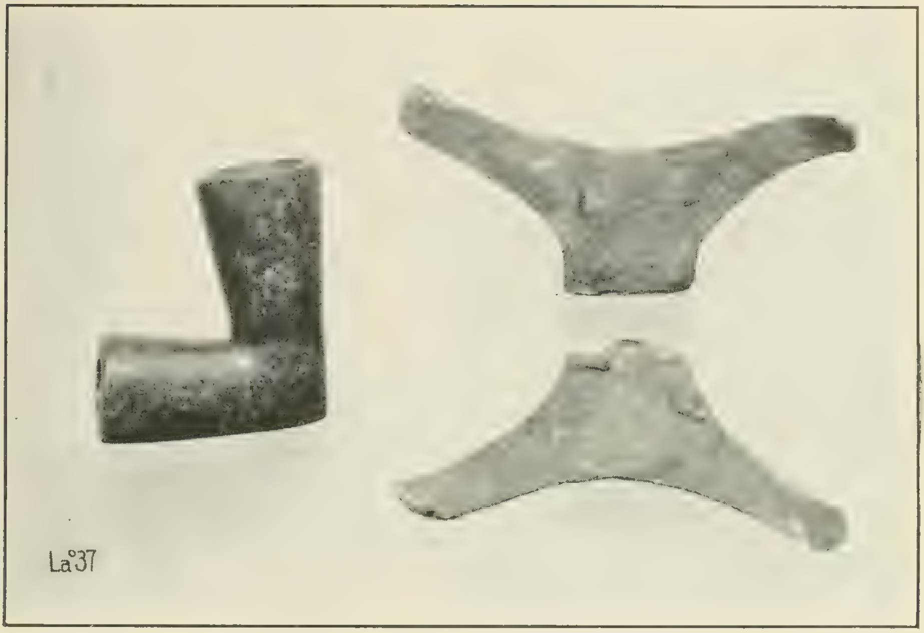
b. Trench around Pit No. 7. Site La° 37.



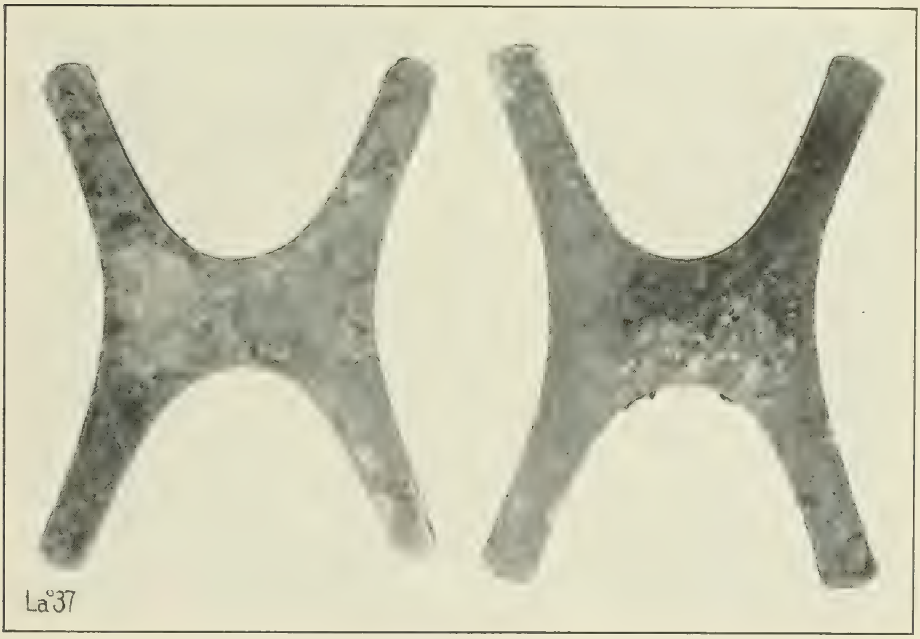
a, Pit No. 7 excavated, Site La° 37.



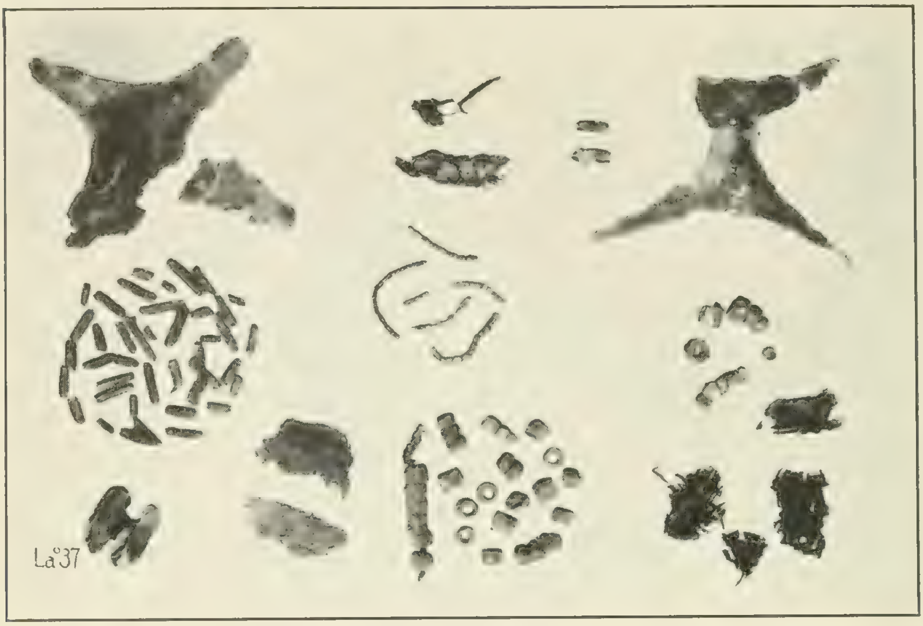
b, Artifacts on edge of Pit No. 7, Site La° 37.



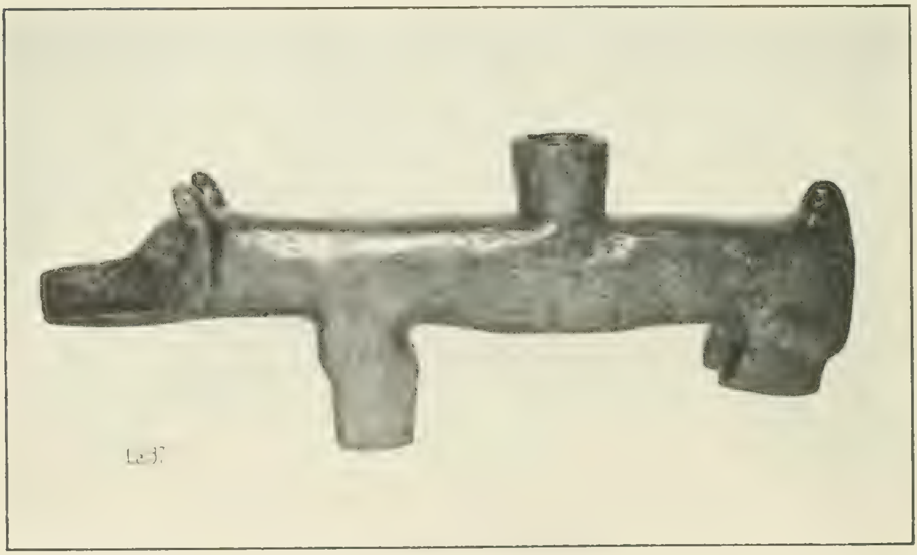
a, Elbow pipe and broken copper reel, Site La° 37.



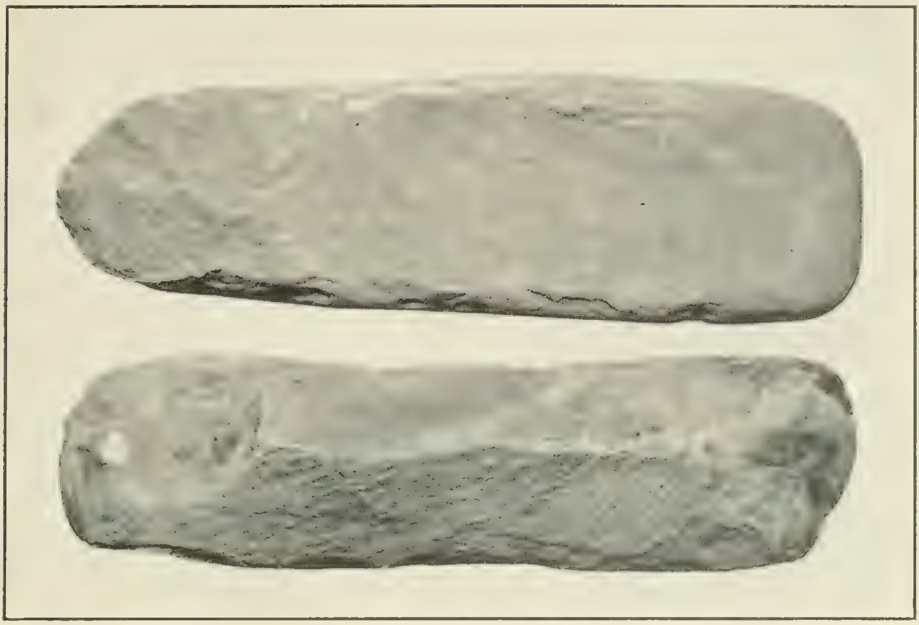
b, Reel-shaped copper objects from Pit No. 1, Site La° 37.



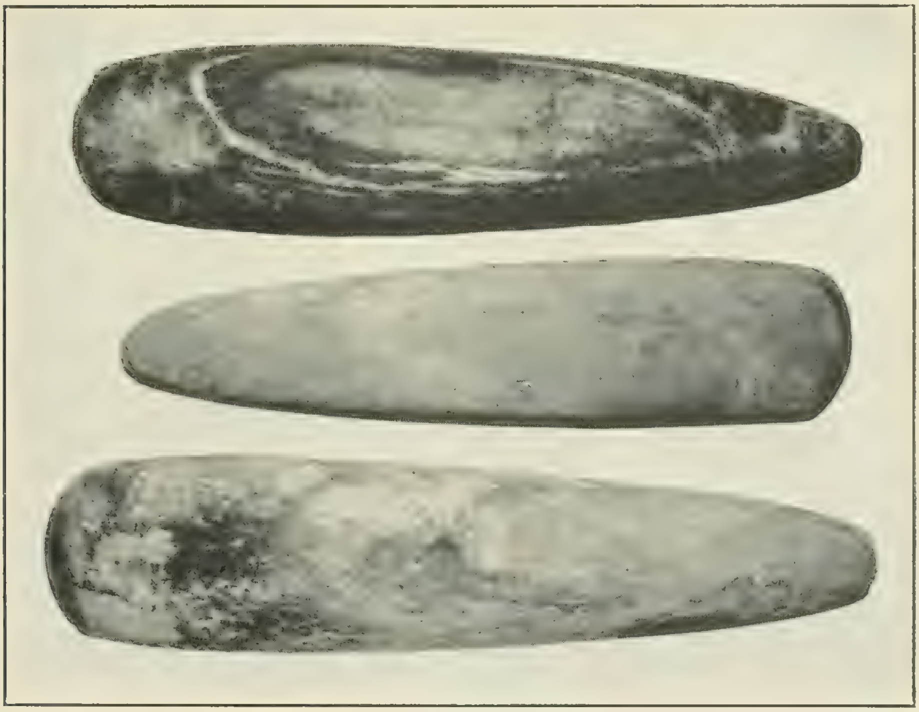
a, Miscellaneous copper objects, Site La° 37



b, Steatite effigy pipe, Site La° 37.



a, Greenstone spades, Site La° 37.



b, Greenstone celts, Site La° 37.

8. Presence of burial pits sunk below the floor level of the mound, probably with bodies extended in the flesh and with artifacts.
9. Burial within mound—reburial of bones usually without artifacts.
10. Reel-shaped copper objects from pits below mound proper.

SITE La° 14

Site La° 14 was in the NE. quarter of section 14, township 3 S., range 8 W. It was located on Tick Island, in Lawrence County, Ala , three-fourths of a mile from the head of the island and about 75 yards from the west bank of the Tennessee River.

It was a sand mound 4.2 feet high, 90 feet long, and 65 feet wide. The shape was oval with the long axis lying in a general north-and-south direction, the highest point not being in the center of the long axis but to the south of it.

This site had been under cultivation for at least 30 years and the former owner, Mr. Hugh Harris, of Courtland, Ala., said it had been much higher within his memory than it was at the time of exploration. In plowing across the mound, natural ditches were formed, which, during heavy rains over a long period of time, led to considerable erosion. It is believed that the site had lost at least 2 feet of soil as a result of cultivation.

In 1914 Clarence B. Moore[10] investigated this site by digging two pits into it (fig. 11). He described the site as a conical sand mound with an extension on its north side. This extension, as reported by him, joined the mound about midway up the slope. When this extension was begun the whole site was a homogeneous unit. The extension, because of erosion, had become part of the original cone.

Tick Island is almost perfectly flat, having once been part of the river flood plain before it was cut off by the slough to the west. The river floods the island nearly every spring, so that the base of the mound has many times been inundated for periods of a week or more.

EXCAVATION

The site was staked in 5-foot squares in the usual manner and excavation was begun along the zero line from 0L4 to 0R8. This area will be designated hereafter in the report as the cone. The area 0L4 to 0L10 was later excavated to the 45-foot line. This area will be called the extension. These terms coincide with Moore's report and will facilitate references.

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[10] Moore, C. B. Aboriginal Sites on the Tennessee River, 1915, pp. 254–256. Reprinted from the Journal of Academy of Natural Sciences of Philadelphia, vol. XVI.

Plate 43, *a*, shows the 10-foot profile and plate 43, *b*, the 15-foot profile. The mound was built of fine river sand mixed with clay and silt, the material probably being collected along the nearby river bank.

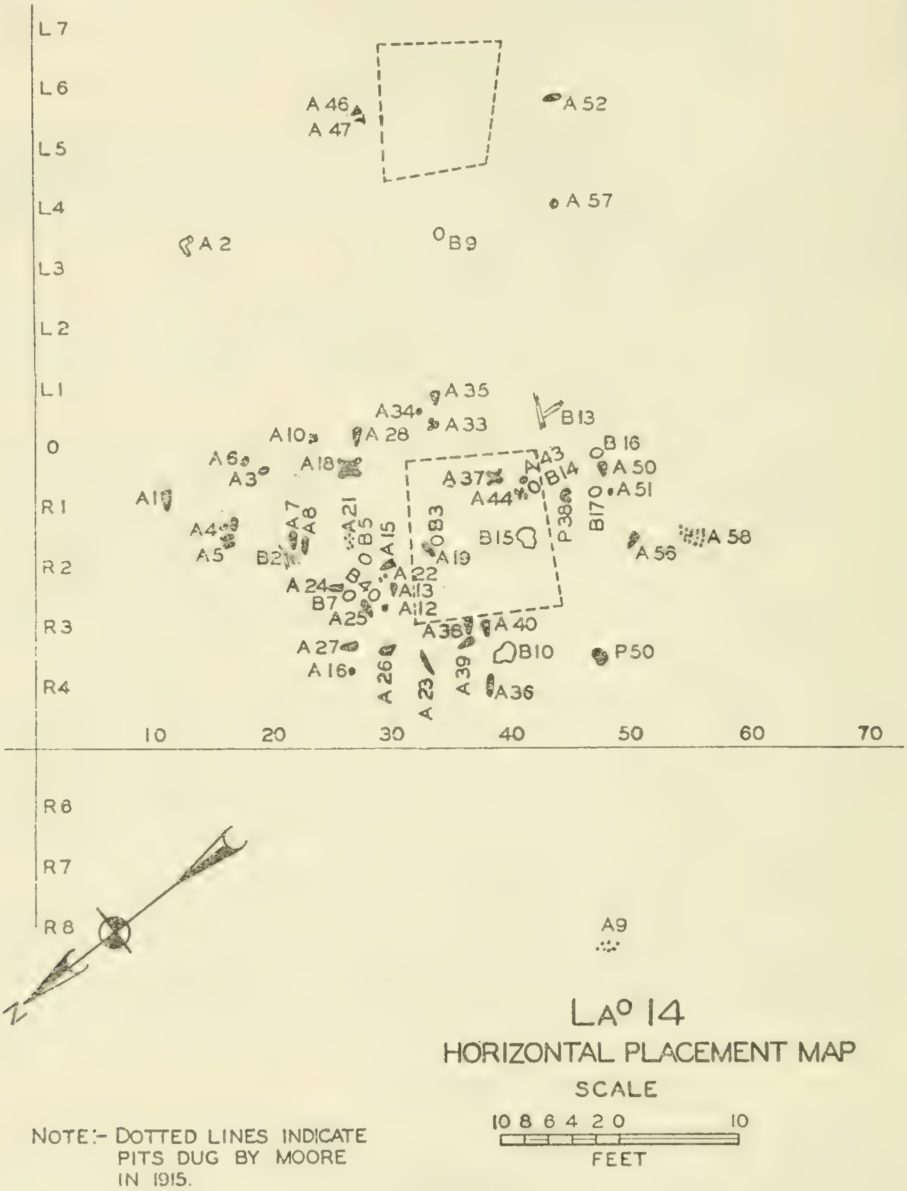

L 7
L 6
L 5
L 4
L 3
L 2
L 1
0
R 1
R 2
R 3
R 4
R 6
R 7
R 8
10
20
30
40
50
60
70
A 46
A 47
A 52
A 57
A 2
B 9
A 35
A 34
A 33
B 13
A 10
A 28
B 16
A 6
A 18
A 3
A 50
A 3
A 37
B 14
A 44
B 17
A 51
A 1
A 7
A 8
A 21
B 5
B 3
P 38
A 4
A 15
B 15
A 58
A 5
B 2
A 19
A 56
B 4
A 22
A 24
A 13
B 7
A 12
A 25
A 38
A 40
A 27
B 10
P 50
A 16
A 26
A 23
A 39
A 36
A 9
N
NOTE:- DOTTED LINES INDICATE PITS DUG BY MOORE IN 1915.
LA° 14
HORIZONTAL PLACEMENT MAP
SCALE
10 8 6 4 2 0 10
FEET

Figure 11.

Profiles show that the top half of the mound was of a darker color than the lower half. A distinct line separated the two kinds of soil. It was not possible to ascertain whether or not the mound was built of different kinds of sand or whether the color was due to seepage. One thing, however, was plain: the whole mound was built at one time, both horizontally and vertically, and the extension was originally a part of the cone.

The floor excavation was carried to the hardpan in all the squares in order to discover any pits which might have been sunk below the bottom of the mound at or prior to the time of its construction (pl. 51, *b*). No pits were found. There was no distinct floor at the base of the mound itself. The bottom followed the general contour of the underlying hardpan, giving it a slight south-to-north dip.

No structures, remains of structures, or post holes were encountered. Only two intrusions into the mound were found; one, probably made as a test pit with a post-hole digger, did not seem important; the other was a distinct intrusion in the 45R8 square where 15 copper beads were found. All other artifacts and burials appeared to be inclusive.

ARTIFACTS

Stone artifacts found in the mound consisted of polished greenstone celts, chipped and worn agricultural instruments made of broad flat slabs of greenstone, flints, and a pipe of some soft stone, perhaps a talc. The celts were of the same general pattern, having a wide-flaring beveled edge at one end and tapering to a point at the other. Practically every one was smooth and polished at the blade but slightly chipped at the tapered end.

A selection of these greenstone celts is shown in plate 53, *b*. The lower one is 15 inches by 3.5 inches in greatest dimension and weighs 6⅝ pounds. The smaller, at the left, is 7.75 inches by 2.5 inches. These measurements represent the extremes in size. These celts are impressive in their beauty of form and finish, a total of 16 being taken from this mound.

The agricultural instruments or spades are oblong slabs of greenstone, chipped by percussion and polished by use on one or both ends. Two of these spades are shown in plate 53, *a*. The lower one is 15 inches by 4.75 inches and weighs 5.5 pounds. The upper one is 14 inches by 5⅞ inches and weighs 3⅝ pounds. Although these instruments are large and heavy they are thin and fairly sharp, and give the impression of being very efficient digging tools. The largest spade found on this site is 21 inches by 6.75 inches and weighs 7.5 pounds.

Types of flint artifacts of varied design are shown in plate 52, *a*. In general the straight-stemmed points are crudely worked. The two side-notched points shown in the upper row are well executed and were taken at a depth of only 4 inches from square 25L9. The knife blade of flint shown in plate 52, *b*, was of a brown color and was 8.5 inches by 2.25 inches in size. This instrument evidently had some ceremonial significance, as it was carefully worked and showed no signs of use. It was buried 23 inches deep in the 40L6 square of the extension, not in burial association.

In the 10L4 square near hardpan a carved elbow pipe, shown in plate 52, *a*, was found unassociated. Of the carving only a crude human face and a square enclosed by a circle could be readily seen. This was the only carved object taken from the site (pl. 46, *a*).

A great deal of galena was encountered in amounts ranging from large single balls to a group of 22 small chips. Galena was found with burials and also unassociated. The ball of ore shown in the upper left of plate 52, *a*, weighs 1⅝ pounds. Several balls showed evidence of having been polished; other pieces appeared to have been merely rough chips.

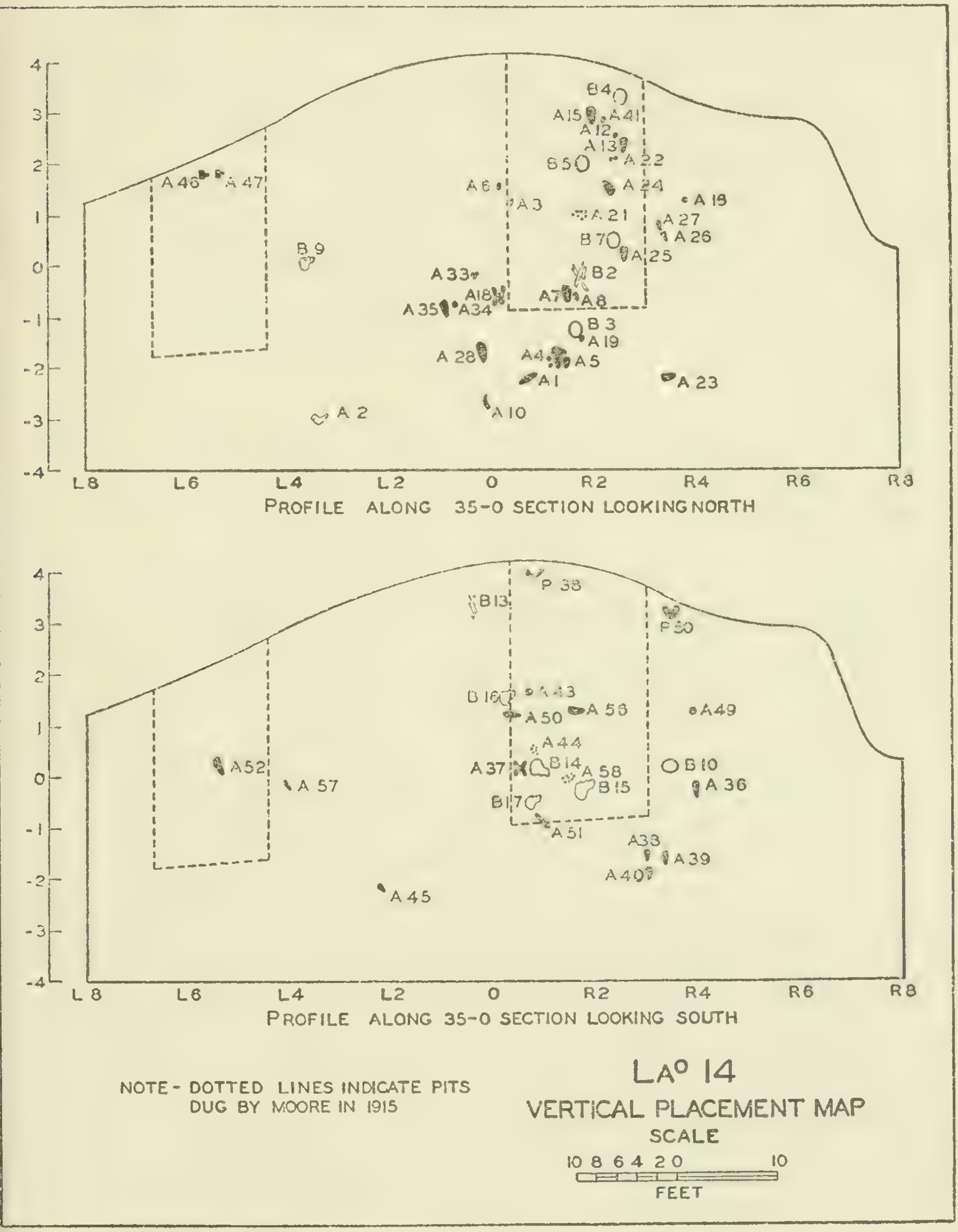
Of the seven copper objects found only two were in association with burials. One of these was a copper celt, carefully made and showing no signs of use (pl. 52, *b*). This celt is 5 inches long and tapers from seven-eighths inch to 1.75 inches in width. The other associated artifact was a spool-shaped ornament found with human teeth, showing that a skull had disintegrated. Whether the spool was above or below the skull could not be determined. This spool had a disk of large circumference on one side joined to a smaller disk on the reverse side. A small thread of textile was wound around the center. Some distance from the spool was found a perforated dish-shaped piece of copper that appeared to be a cap belonging to a spool similar to the one mentioned above. With the cap in place it would resemble the copper spool found on Site La° 37. This cap is 2.25 inches in diameter. Both spool and cap are shown in plate 52, *b*.

Two reel-shaped objects in very poor condition were discovered. Each was pierced with two holes. The larger of these had maximum dimensions of length 4.75 inches and width 4.5 inches; diagonal dimension 6⅛ inches. It was found in association with a large greenstone celt, as shown in plate 48, *a*. The smaller of these reel-shaped objects, with three arms broken, was found standing upright in Moore's pit. It had evidently been shoveled out and thrown back when the pit was filled, escaping detection. It is shown in situ in plate 50, *b*.

Only two strings of copper beads were found; one of these was mentioned above as being found in an intrusive pit. This string was made up of large and small beads. They were constructed by rolling strips of copper to the desired size. Pieces of string were still preserved by the copper salts. These beads varied in length from 1$\frac{3}{16}$ inches to $\frac{3}{16}$ inch, and are shown in plate 52, *b*.

No whole pots were uncovered, but Moore in his report mentions several in occurrence with burials. Two vessels that can perhaps be partially restored were found. They were close to the surface and the plow had broken them and scattered the pieces.

The majority of sherds from this site were thin porous ware, undecorated. The total number was too few to draw any very definite conclusions. A few sherds showed cord impressions and a few showed textile impressions. This textile impression is very different from that produced by the usual twined woven cloth. In this case, seeming stiff reeds, about three-sixteenths inch, were used for "weft"; straws and quite small strings were twined about them to give the impression shown. The vertical placement of artifacts is shown in figure 12.


4
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A7
A8
A35
A34
B3
A19
A28
A4
A5
A1
A23
A2
A10
L8
L6
L4
L2
0
R2
R4
R6
R8
PROFILE ALONG 35-0 SECTION LOOKING NORTH
P38
B13
P30
B16
A43
A50
A56
A49
A44
A37
B14
A58
B10
A52
A57
B15
A36
B17
A51
A33
A39
A40
A45
PROFILE ALONG 35-0 SECTION LOOKING SOUTH
NOTE - DOTTED LINES INDICATE PITS DUG BY MOORE IN 1915
LAº 14
VERTICAL PLACEMENT MAP
SCALE
10 8 6 4 2 0 10
FEET

FIGURE 12.

BURIALS

The skeletal material consisted mainly of teeth caps with perhaps one or two bits of soft mealy bone. Of the 13 remains discovered only one skull could be said to be even in approximate anatomical order. This was the only one the pieces of which could be removed.

Bits of bone were found preserved under artifacts and with copper. The excellent drainage offered by the sand in combination with the vegetation and cultivation on the surface had reduced skeletons to little or nothing. Even where teeth and one or two pieces of long bone were found there was little or no trace that other bones had ever existed.

Burial No. 1.—The only evidence of a burial here were teeth caps associated with a greenstone celt and spade and one piece of red hematite and ochre, 43 inches deep (pl. 47, *b*).

Burial No. 2.—At a depth of 68 inches were found copper-stained teeth with a copper celt. The celt had been preserved in a textile wrapping, of which only a few sherds remained (fig. 12).

Burial No. 3.—From 4 to 12 inches below the surface, no doubt disturbed, a tooth and a piece of fibula were found near a large flat slab of shale. At the same depth and 3 feet distant a celt and two pieces of galena were found (pl. 45, *a*).

Burial No. 4.—A set of teeth caps was found and some 2 feet away a lump of galena and a large greenstone celt that might have been laid across the knees (pl. 46, *b*).

Burial No. 5.—A skull and small greenstone celt were found at a depth of 40 inches. The skull was soft and mushy and only a few fragments were preserved (pl. 45, *b*).

Burial No. 6.—This burial consisted of the teeth caps and a fragment of ulna in poor condition.

Burial No. 7.—A fragment of long bone preserved beside a broken celt was found. The celt had been broken in two and one-half had split, making three pieces. A small piece of galena was also associated with the bone fragment (pl. 44, *a*).

Burial No. 8.—Charred and broken human bones were found here with charcoal and burnt clay. This area, 3 feet long and 1.5 feet wide, consisted of two parts; one of these sections was loosely packed in the sand and consisted of bone and charcoal. The other section was packed solid and contained charred bone, burnt clay, charcoal, and broken bone. Plate 44, *b*, shows a cross section of this area in the bank. It is the dark patch above and to the right of the right-hand celt. This could not have been burned in place as the area was too small, but it probably was burned nearby. As no attempt had been made to sort out the bone and because of the bulk of this material, transportation from a distance would have been difficult.

Burial No. 9.—This burial was suggested by a tooth.

Burials Nos. 10 and 11.—These two burials are thought to be fragments of burials probably shoveled out previously and then thrown back during excavation. They are too deep in the mound (50 inches) to be so scattered and they are very near the bottom of the pit dug in Moore's investigation.

Burial No. 12.—Probably this was a flexed burial, as two pieces of long bone lay very close to a skull cap. Part of a broken celt lay below the skull.

Burial No. 13.—A copper spool surrounded by teeth is designated here as a burial. A skull probably disintegrated and fell around the spool, which was either worn attached to the ear or suspended from the neck. The spool had a string wrapped around its center.

There were 11 positive burials. Two had probably been disturbed by Moore. One of the burials was without doubt a cremation. Eight of the 11 burials had artifacts in association. Five of the burials consisted of only teeth caps, no trace of bone being visible. Perhaps other burials were present with some of the other artifacts, but more favorable conditions to bone disintegration had dissolved them.

CONCLUSIONS

It is manifest from an inspection of artifacts that this site in many ways resembles La° 37. It was clearly a burial mound in which, either due to age or some destructive quality of the soil, the skeletal material had practically disappeared.

The reel-shaped objects of copper, balls of galena, and greenstone celts and spades seem to be quite similar to those found in La° 37.

Such potsherds as were found are believed to be the result of surface deposit, possibly made by a people responsible for a nearby small village site and shell midden.

Perhaps the most interesting feature of the mound was the very prominent horizontal stratification of silt in the sand of the mound produced by seepage. These seepage lines occur throughout the body of the mound, as shown in plates 47, *a;* 48, *b;* 51, *a.* They presumptively have been forming ever since the mound was built and have been growing in thickness as more and more water-borne silt seeps into the mound each year. When Clarence B. Moore, during his investigation of aboriginal sites along the Tennessee River in 1914, dug two pits into this mound these seepage lines were completely destroyed in the area of the pits. The pits were refilled with the same material removed from them and immediately seepage water began a sifting, removing, and replacing of the silt in this disturbed sand. The production of new seepage lines in this disturbed material at once suggested to Mr. De Jarnette the possibility of comparing their thickness, produced after 20 years (1914 to 1934), with the thickness of the lines in the undisturbed portions of the mound, with a view of getting an estimate on the possible age of the mound. The line of the larger pit made by Moore's exploration is shown in plates 49, *a*, *b*; 50, *a*, *b*. A study of this feature raises a number of questions, the answers to which are not easy to obtain.

(1) Is it possible to assume a uniform rate of growth in seepage bands, or will they grow faster after they are once started?

(2) Can a rate of growth be determined?

(3) Are the lines the result of rain seepage or of seepage of flood waters through the mound?

(4) What effect, if any, does the condition of the surface have upon growth of seepage lines? In this connection it may be said that the Tennessee River in extreme flood stage completely covers this mound; once or twice a decade, and in normal flood stage, it usually covers some part of the mound annually.

From a careful study of seepage bands at this site, made by Mr. De Jarnette and his associates, the following conclusions seem to be borne out:

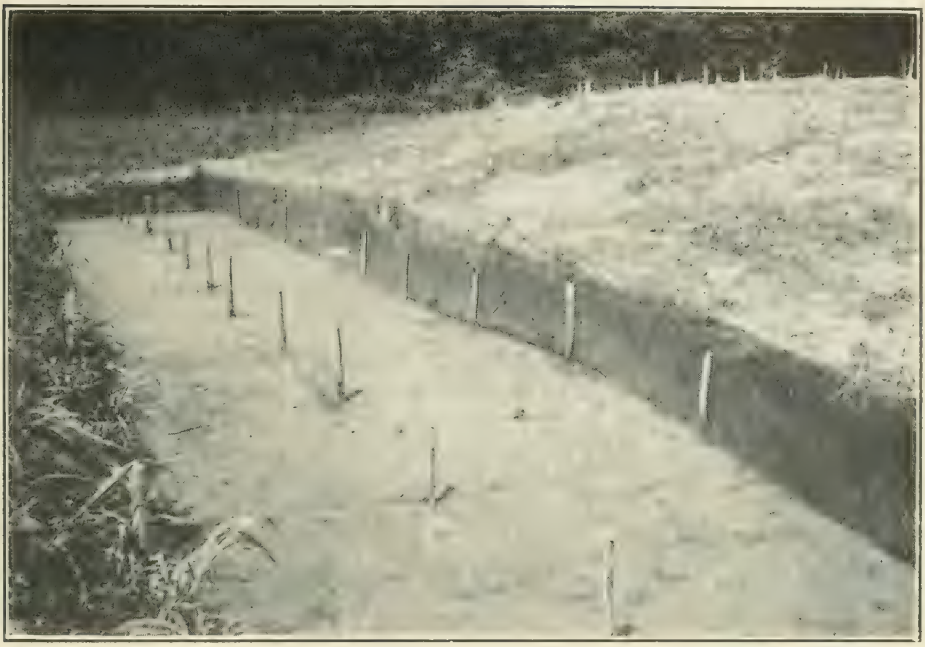
(*a*) The most important factor in promoting seepage is porosity of soil, the presence of large quantities of silt to be resorted having very little effect.

(*b*) The determination of the rate of seepage band formation is an individual problem for each site.

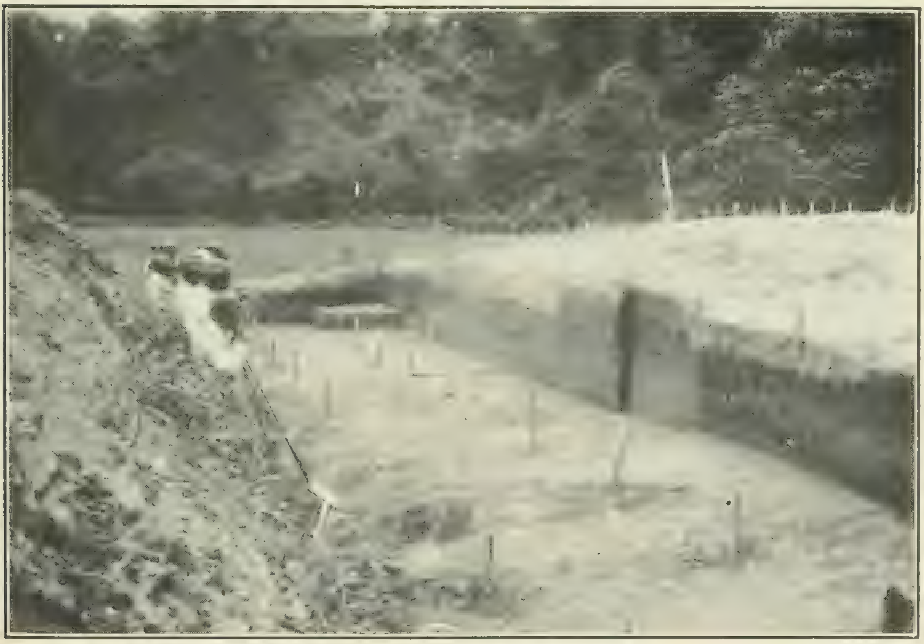
(*c*) No precise determination has yet been made of seepage rate of accumulation, but the assumption of a uniform rate is the first approximation.

(*d*) Seepage on this site was due largely to rainfall and not to flood waters, since seepage bands were broadest in the center of the mound and most uniform, and disappeared on the periphery of the mound where the run-off of rain water was faster. It was this edge of the mound which was most often subjected to flood waters.

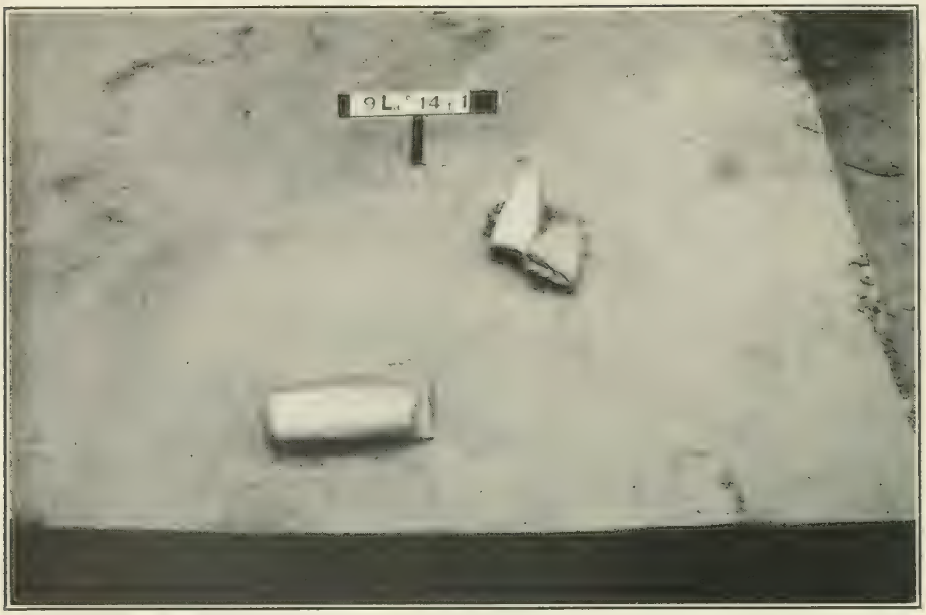
(*e*) Seepage was very little affected, if at all, by the surface conditions of the mound. The average width of seepage lines in the undisturbed portion of the mound was about 1 inch. In the pit refilled by Moore the new lines produced after 20 years were about one-sixteenth inch in thickness. On this basis, if one assumes a uniform rate of growth, the mound would have an estimated age of some 320 years. It is not intended to urge the validity of such an argument, but it is intended to suggest that the factor of seepage if properly studied might become a valuable means of archaeological technique in age determination. A drawing of the appearance of these seepage lines is shown in figure 13.



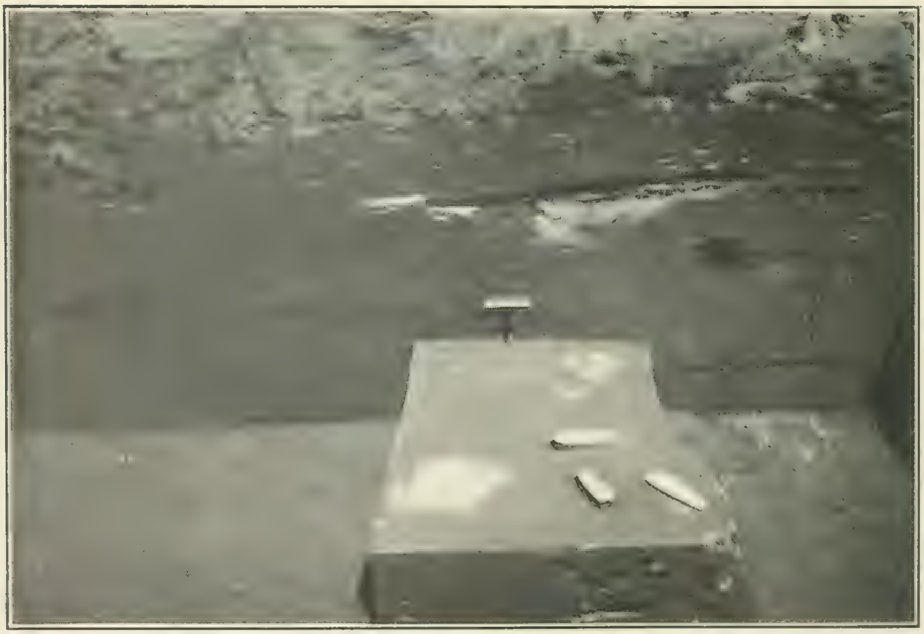
a, Profile 10-foot cut looking west, Site La° 14.



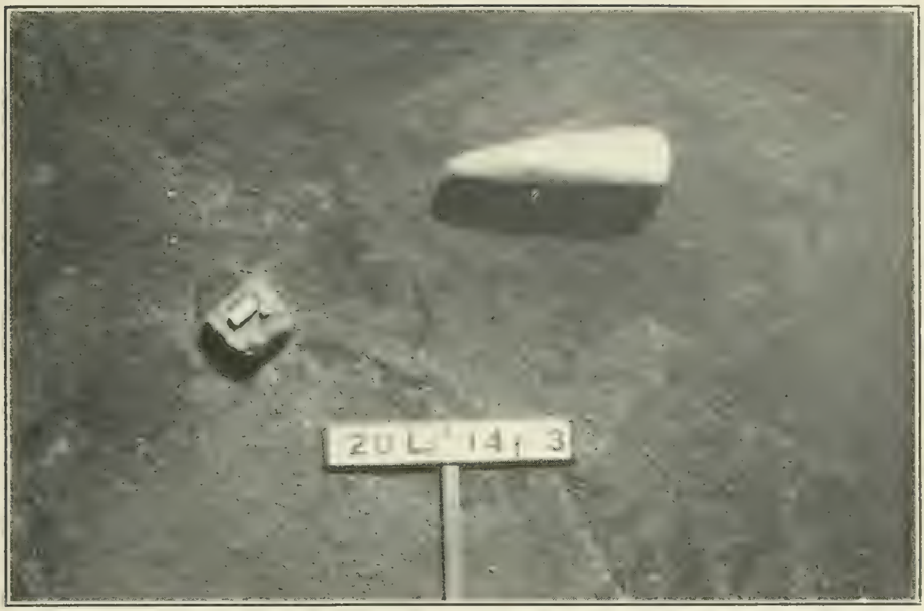
b, Profile 15-foot cut looking west, Site La° 14.



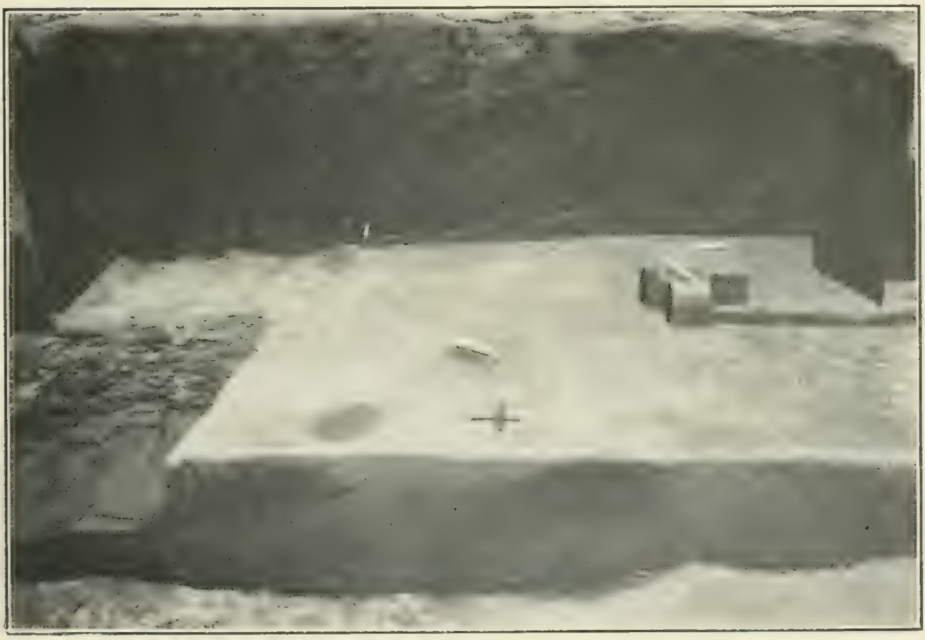
a, Broken celt and galena, Site La° 14.



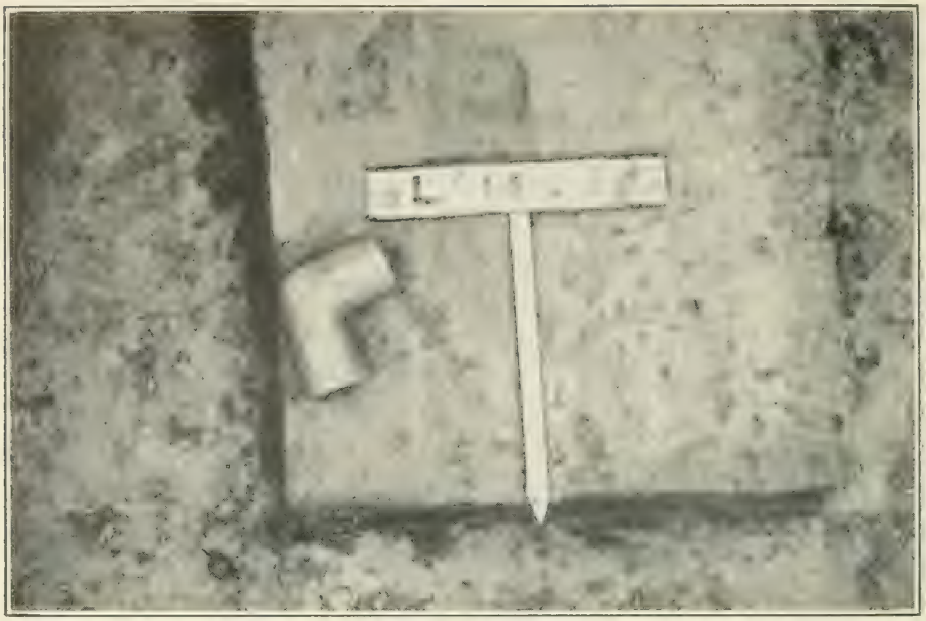
b, Celt burial—Moore's pit at left, La° 14.



a, Celt with galena, Site La° 14.

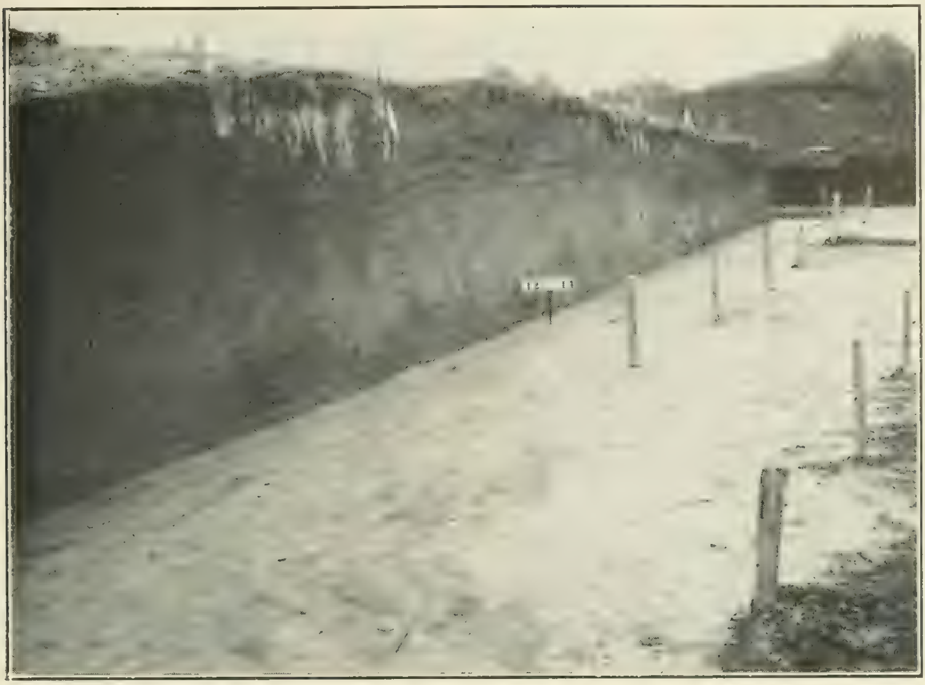


b, Outline of skull with celt, Site La° 14.

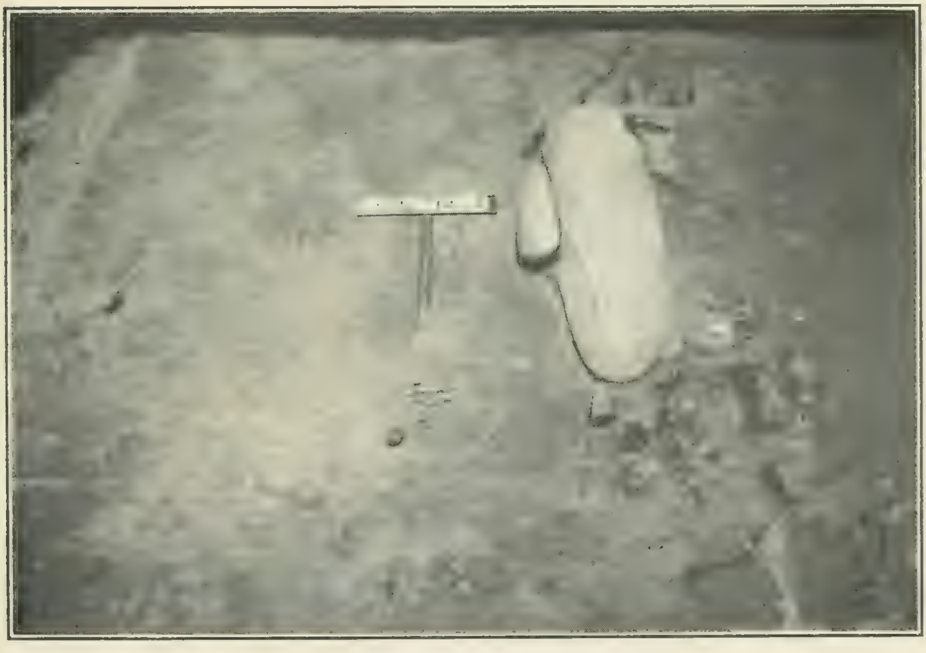


a, Stone elbow pipe, Site La° 14.

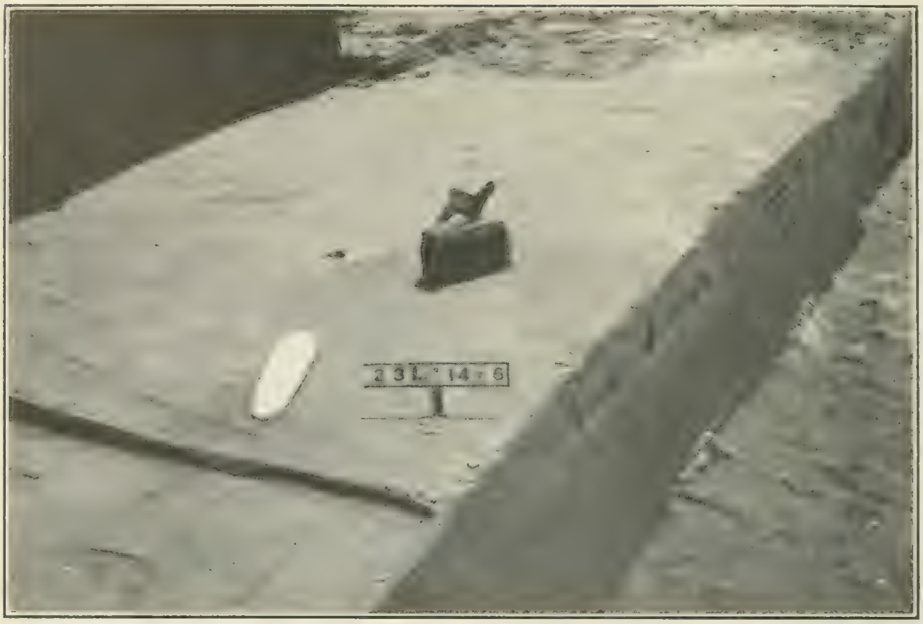
b, Celt and galena, Site La° 14.



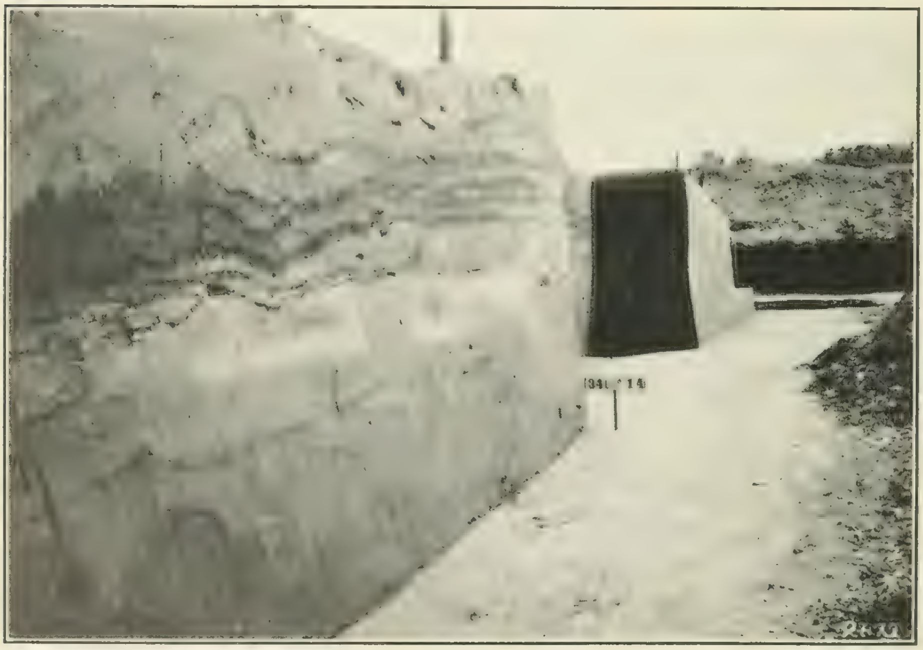
a, Profile of 20-foot cut looking south, Site La° 14.



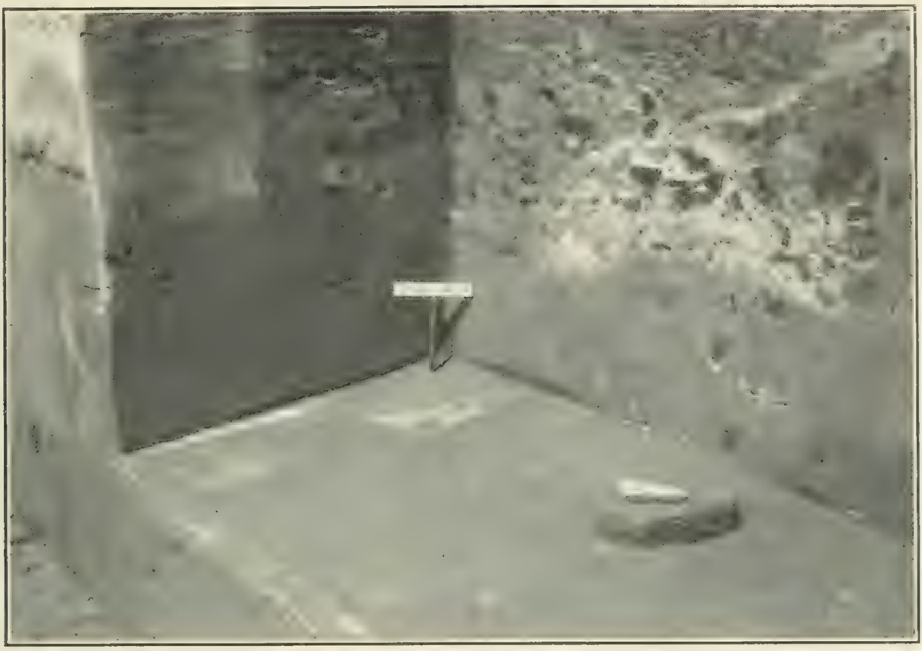
b, Teeth caps, celt, spade, and stone, Site La° 14.



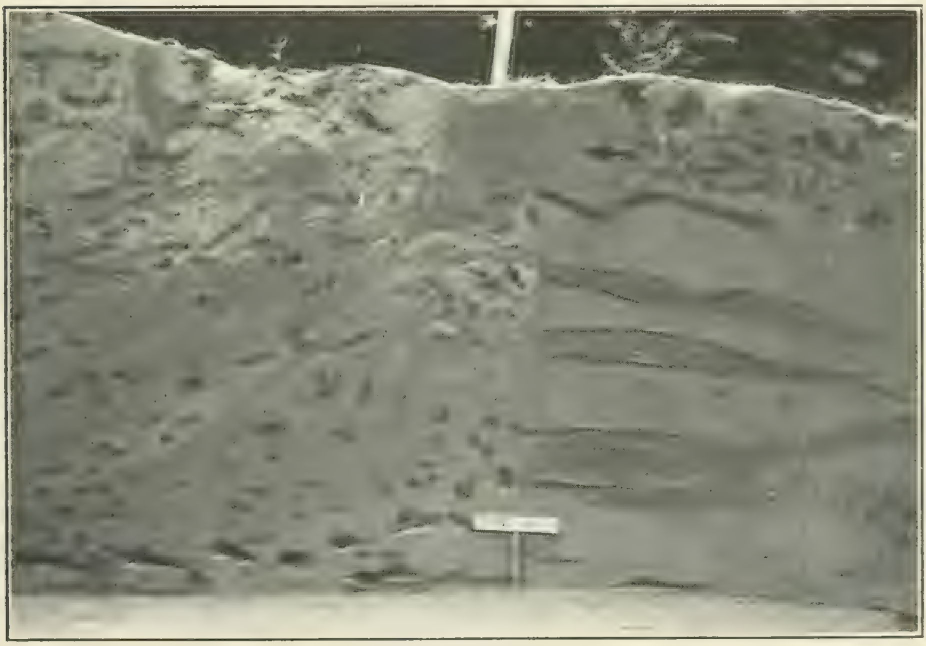
a, Copper reel and greenstone celt, Site La° 14



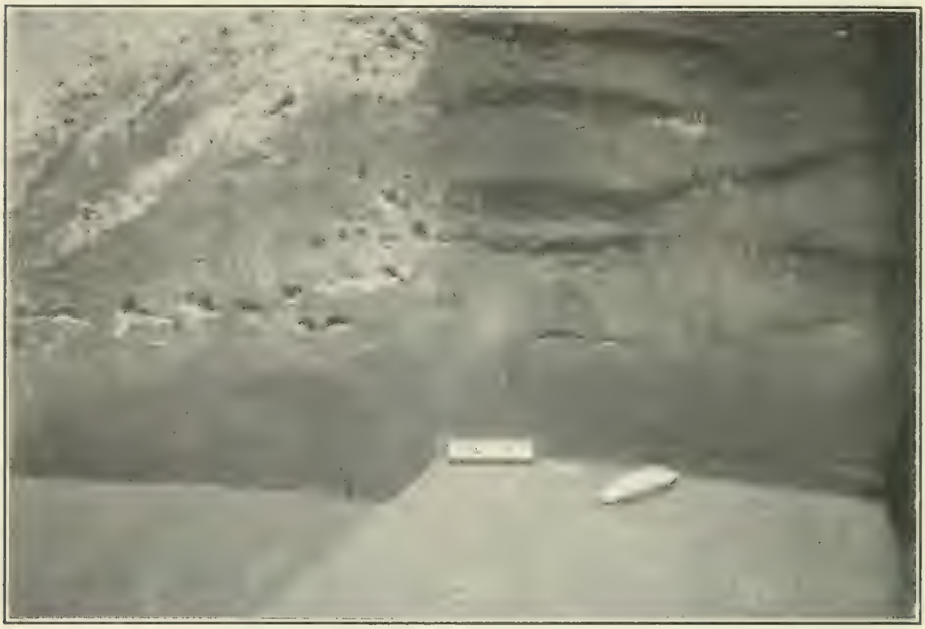
b, Profile of 30-foot cut looking south, Site La° 14.



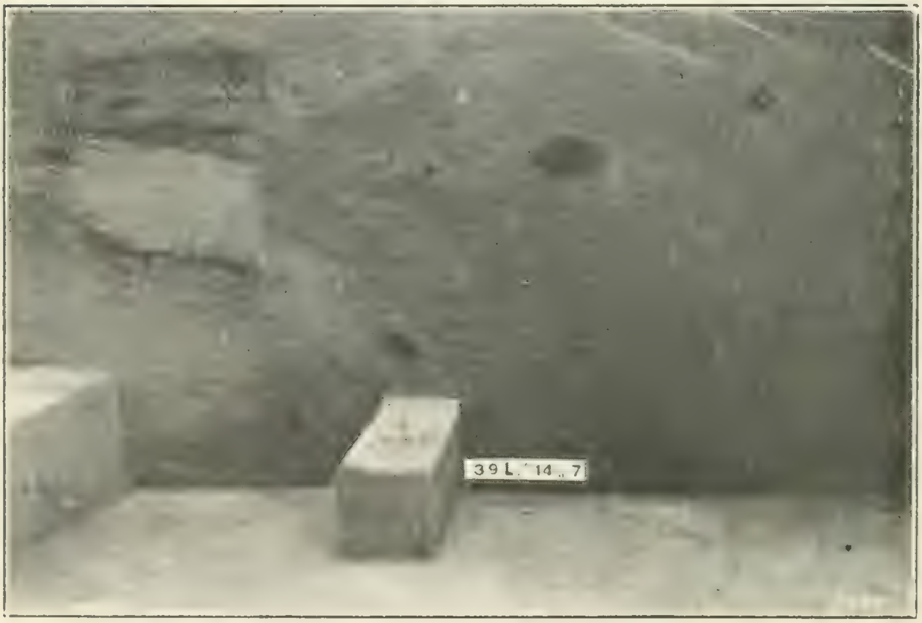
a, Profile of R7 cut showing Moore's pit refill, Site La° 14.



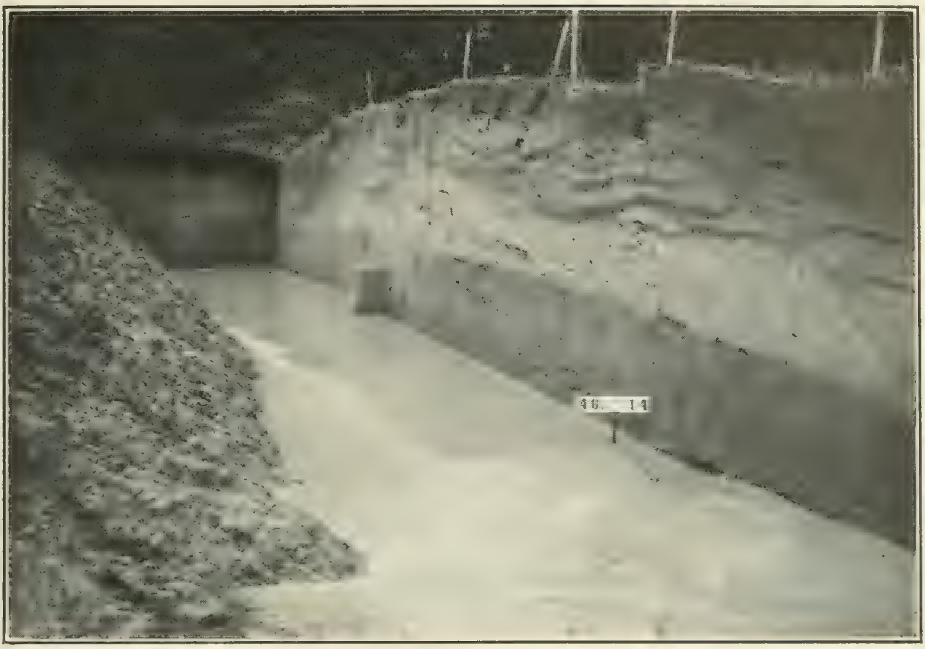
b, Break in seepage lines, Moore's pit, Site La° 14.



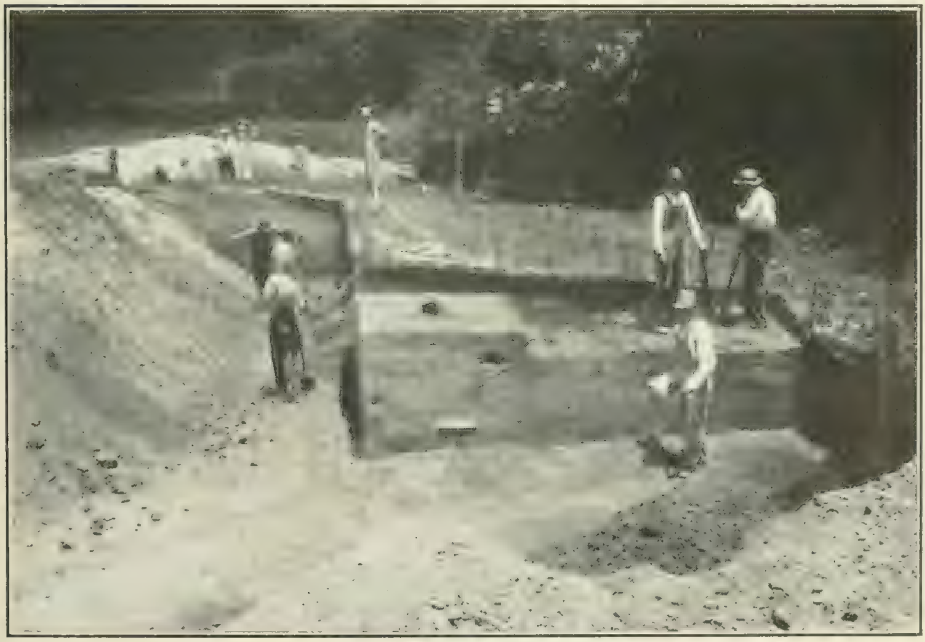
a, Celt and potsherds in 30A3, Site La° 14.



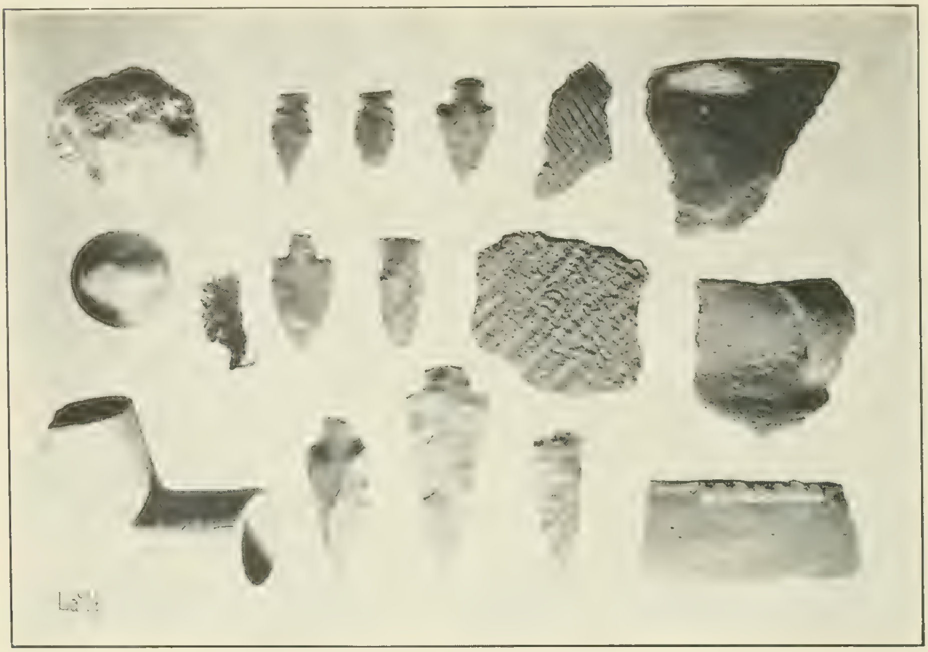
b, Small copper reel in Moore's pit, Site La° 14.



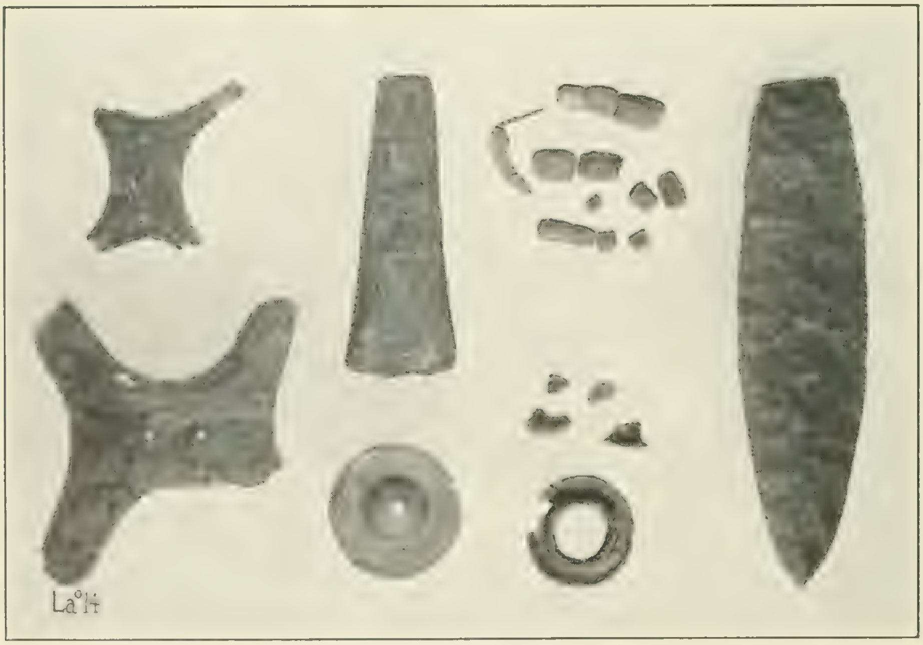
a, Profile of 45-foot cut looking north, Site La° 14.



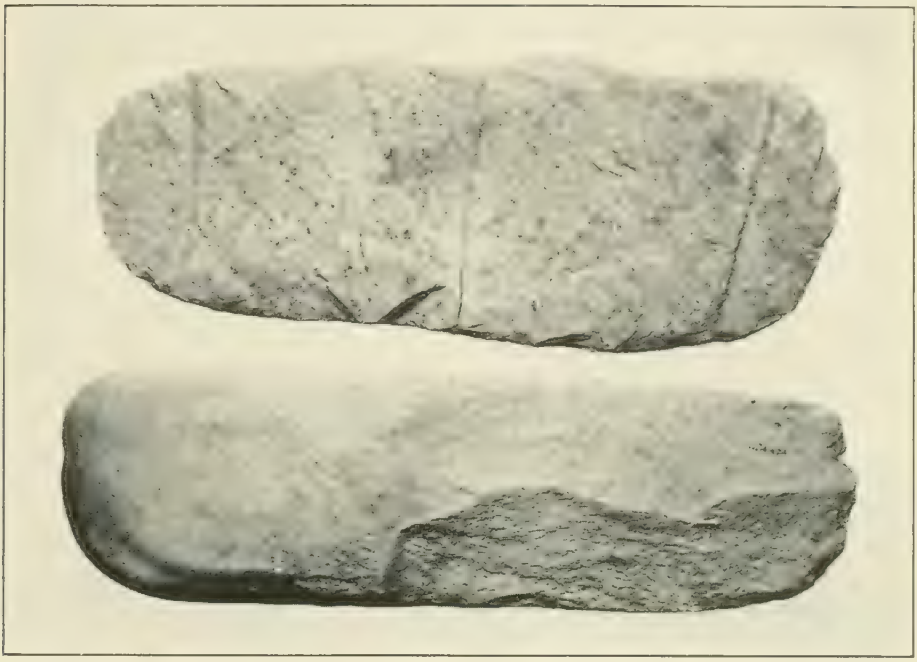
b, The finish of the mound, Site La° 14.



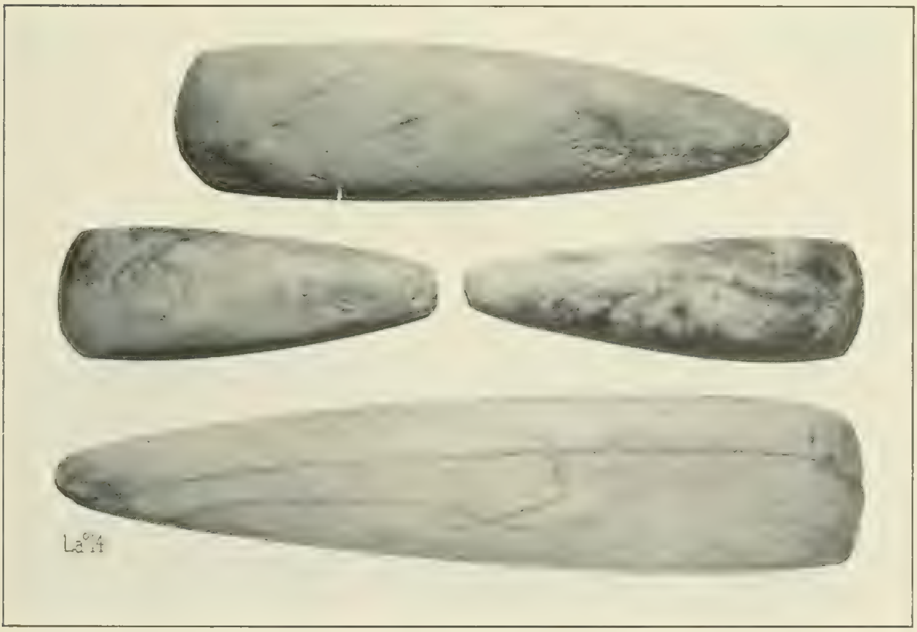
a, Artifacts and pottery, Site La° 14.



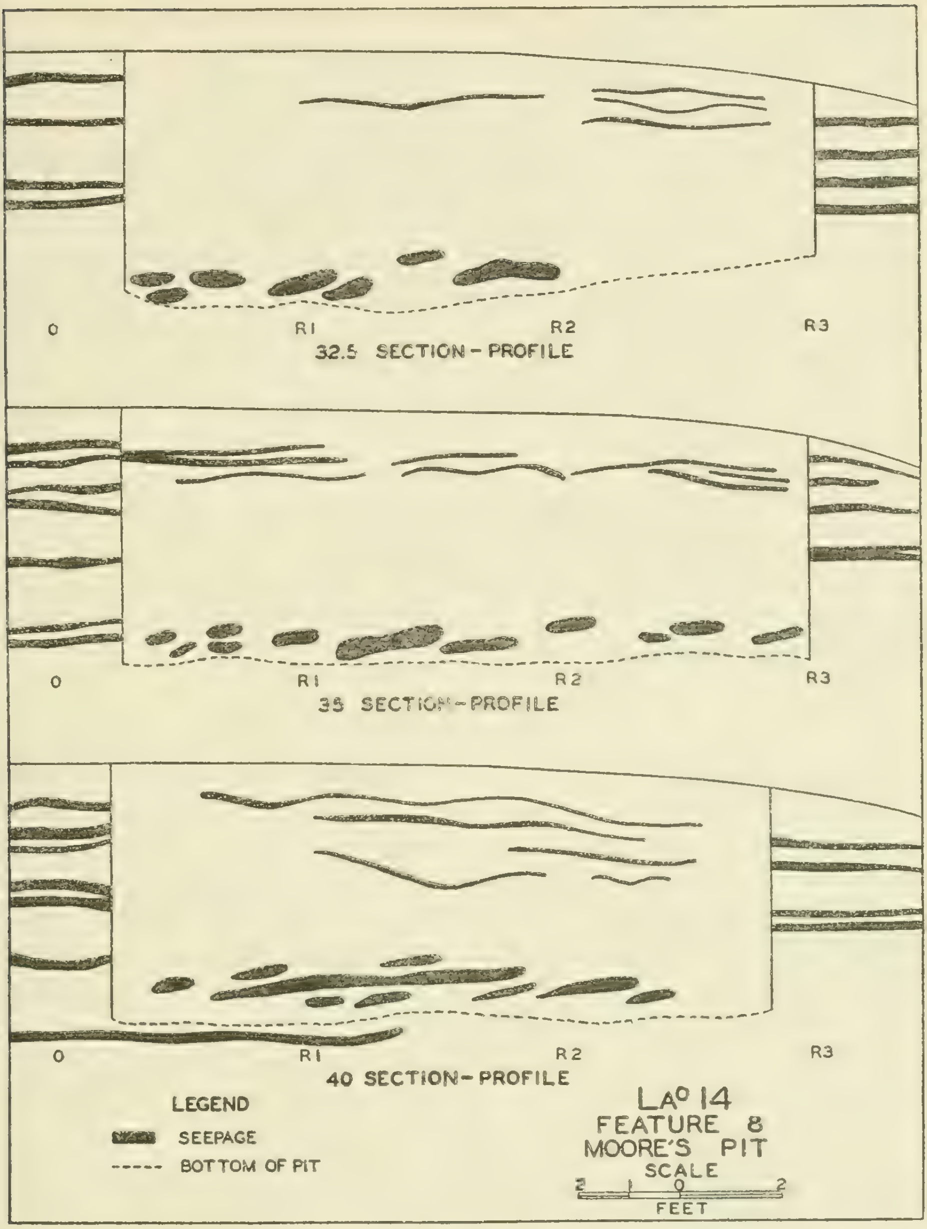
b, Copper artifacts and flint blades, Site La° 14.



a, Greenstone spades, Site La° 14



b, Greenstone celts, Site La° 14.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LEGEND
SEEPAGE
BOTTOM OF PIT
La° 14
FEATURE 8
MOORE'S PIT
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2 1 0 2
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FIGURE 13.

SITE La° 13

Site La° 13 was located on the upper end of Tick Island, Lawrence County, Ala., in the SE. quarter of section 14, township 3 S., range 8 W. It lay about 100 yards north of the head of the island and could be approached across the village site which covered the intervening space. Tick Island, formerly known as Hood Harris Island, is approximately 2 miles from Red Banks and 9 miles from Courtland, the nearest town. The island is separated from the mainland by a swift channel of water about 100 feet wide.

Mound La° 13 was a low regular conical mound standing only 2.7 feet above the surrounding terrain at the time of excavation. However, it was learned from Mr. Hood Harris, the former owner, that in the last 20 years he had plowed the mound down 3 feet for the purpose of obtaining a flat top on which to build a tenant house. The mound extended 90 feet north and south and 80 feet east and west, including the wash and plowed slope. The site was located by a field party from the Alabama Museum of Natural History during the summer of 1933, while making an archaeological survey of the Tennessee River Valley, as a preliminary to the present expedition. The mound proper was composed of a sandy black loam similar to the topsoil of the surrounding terrain. The mound contained a greater percent of sand than is present today in the earth of the village site, which lies immediately adjacent to the mound on the south side and extends some 300 feet toward the head of the island. The mound was resting on a hard clay floor, and though careful watch was kept no evidence of any pits or any disturbance of subsoil could be detected any lower than the established floor of the mound.

METHOD OF EXCAVATION

A base line running due north and south was established along the east margin of the mound at such a distance from the mound as to be reasonably sure of being well outside the mound proper. Along this base line, at intervals of 5 feet, stakes were set, numbered right and left from an arbitrary stake called the "0" stake. At right angles to this base line and extending across the mound, lines of stakes 5 feet apart were established, so that the entire mound was staked off in 5-foot squares. Starting on the base line, the mound was taken down in 1-foot levels, all potsherds and artifacts found in each level being put into a separate sack and marked with the level and square number. As was the custom in this survey, the lower left-hand stake gave the number to the square and indicated whether it lay to the left or right of the "0" line crossing the mound. As a large number of men were available, the mound was worked from the east and also from the south end in order to save time. At the first indication of a burial the men were taken away from the square and the skeleton was carefully uncovered by the supervisory personnel.

Plate 54, *a*, shows the staking of the mound and the 15-foot profile looking from the northeast. By maintaining at all times a clean floor and accurate vertical profile, as shown in plate 58, *a*, a close watch could be kept for subfloor pits or intrusive burials. None were found.

ARTIFACTS

Aside from the pottery, site La° 13 yielded very few artifacts. No perfect projectile points were found in association with the burials and only 27 broken points were found scattered throughout the mound. These showed a wide variation in form. One sandstone discoidal, one lapstone, one fragment of greenstone celt, and three hammerstones completed the list of artifacts from this site. These were all taken from the upper portion of the mound near its periphery and were not certainly associated with any burial. Such artifacts found are therefore not regarded as significant. The pottery was undoubtedly the most outstanding content of the mound. Scattered in the upper portion of the mound were potsherds ranging in size from one-half inch to 2 or 3 inches in diameter. A study of these revealed that almost all of these sherds were either of clay or grit temper and almost all occurred in the first and second floor levels. These grit-tempered sherds occurred only as individual inclusions in the soil, suggesting that they were carried upon the mound as sherds in the earth, and not as vessels which were broken after placement in the mound. These sherds were concentrated more on the southeastern slope of the mound, near the bottom and in the direction of the village site.

In the village site adjacent to this mound potsherds of similar kind were found in abundance. A study of the sherds from this village midden seems to indicate that only grit and clay tempering were used. On the top of the mound and throughout the lower layers of the original undisturbed portion no grit or clay tempered sherds occurred. The absence of sherds on the center and highest part of the mound is believed due to the fact that when the surface of the mound was plowed off the surface layer of sherds was removed from the top and carried down the slope. All the pots in association with the burials, as well as the large sherds found in the center of the mound, were shell tempered.

Although the adjacent village site was underlaid by a foot of shell there was little evidence of any shell inclusion in the mound proper. Only a few fresh-water snails and one core of a large conch shell were present. The mound did not rest on a shell-midden layer, as might have occurred if it had been erected after the adjoining village had been established.

BURIALS AND SKELETONS

La° 13 was primarily a burial mound. The burials all appeared to be inclusive and not intrusive. Although a careful search was made for any evidence of intrusion of burials from a higher level no such evidence was found.

The first burial encountered consisted of an extended skeleton, found in blocks 15L3 and 15L2, as shown in plate 54, *b*. The skeleton was lying on its back and the bones were so badly decayed that little besides the general outline of the skull and large bones remained. The burial lay on a north-and-south line with the head to the north and the face turned toward the east. To the right of the body there was a group of three pots and four skulls, all piled together without any special order or orientation, as shown in plate 55, *a* and *b*.

The first burial was removed and a second extended burial, about 3 inches deep, was found directly under it, as shown in plate 56, *a*. One of these skulls was very interesting in that it had a low frontal angle, but whether or not this was due to post-burial distortion could not be immediately ascertained. Plate 58, *b*, presents the 20-foot profile, showing the position of this group of burials and artifacts in the mound.

In block 20L2 there occurred three skulls with no evidence of any torsal bones: near the head of one there was a pot and large sherds, as shown in plate 56, *b*. In this instance, as in other cases, it appeared that no body had been buried with the skull. Deterioration of skeletal material due to excessive moisture and leaching out of the lime by ground water, and to bacterial action, might have been rapid, but rapid destruction of bone material cannot account for the absence of bones of the torso when the skull is still present.

In block 25L4 and 25L3 there occurred one of the most interesting groups of pots and burials in the entire mound. Two bundle burials and several fine pots and large sherds were arranged in seemingly very haphazard manner, as shown in plate 57, *a*, *b*.

In 30L2, extending north and south, there was a burial with partially flexed legs. A large potsherd was found on the right shoulder blade.

In 50L4 there was the femora and tibiae of a flexed burial, but all other indications of the skeleton had disappeared.

In 30R1 two burials were found; one a bundle burial, the other a flexed burial. In the flexed burial the body was lying on its right side with the arms flexed back upon themselves so that the hands could be about the neck. The feet were drawn up under the body in a very cramped position (pl. 60, *b*).

A skull, two large potsherds, and a fine duck effigy were found in 25L1, as shown in plate 59, *b*.

In 35R2 there was a great jumble of bones in better condition than most of the bones found in the mound (pl. 59, *a*). There was no skull, yet almost one-half of the skeleton lay undisturbed while the other half was missing. Although it was very near the surface, there was no evidence that a plow was responsible for the damage.

The last burial found in the mound occurred in 40R2 only about 18 inches below the surface. The bones were in much better condition than in the rest of the mound, as shown in plate 60, *a*. The skeleton lay on its back in a north-and-south direction with the face toward the west. The right humerus was missing but the radius and ulna were folded across the body. The left arm, from which the hand was missing, extended along the side of the body. The legs were flexed and drawn up under the body. About 6 inches from the left shoulder there was a small clay pot with a serrated rim.

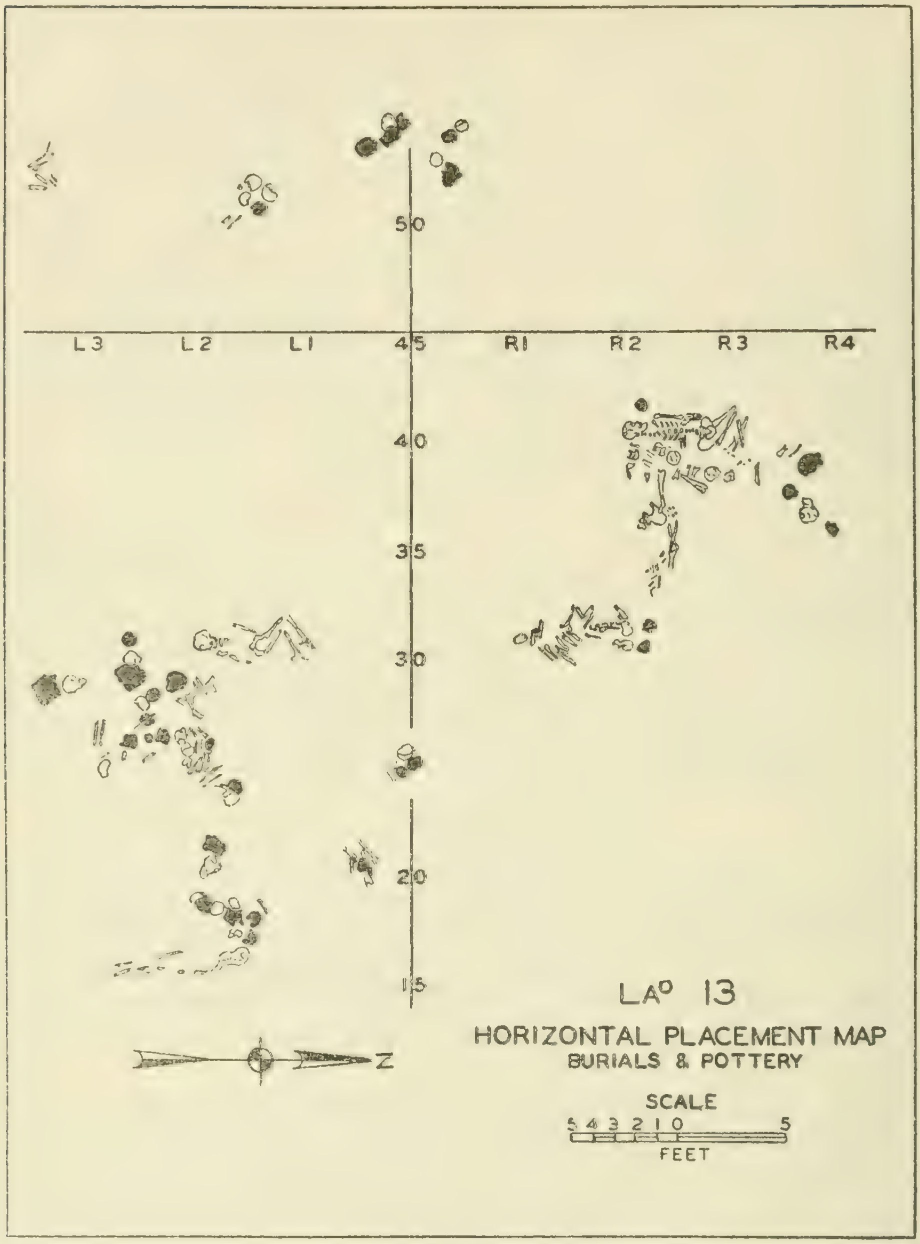
In all, there were 6 burials of bodies in the flesh extended or flexed, 3 bundle burials of bones, and 18 skulls that had no torsal bones to accompany them. With these separate skulls there was usually deposited one or more open bowls and sometimes a heavy sherd from a large vessel, as shown in plates 61 and 62.

The very poor condition of the skeletal material in this mound does not necessarily indicate great age. The flat top and sandy soil made easy the entrance of water, as shown by the seepage lines in plate 63, *a*. Furthermore, the surface of the island was not much above normal stream level, and the water table in the soil was often higher than the base of the mound, as shown in plate 63, *b*. Such a condition would cause rapid deterioration of all organic material. Figure 14 shows the horizontal placement of burials in this mound.

POTTERY

Plate 64, *a*, shows representative sherds from the mound. The three sherds with strap handles and the one with beaded rim were from the body of the mound and are shell tempered. They are regarded as mortuary vessels. The cord-paddled and stamped sherds, with simple or plain rims, are grit tempered and were found on the sides of the mound near the surface.

Besides the many large sherds and broken vessels found associated with the burials three water bottles and five utility vessels in fair condition were recovered. Plate 65, *b*, shows two of these water bottles. They range in form from globular bottles with very short necks to much-flattened bodies and larger necks. Like all other vessels associated with burials, they are shell tempered. The larger bottle is 8 inches in diameter and 7 inches high, with a mouth 4 inches in diameter. The other bottle is 7 inches in diameter and 8 inches high, having a mouth 2.75 inches in diameter. The open bowls shown in plate 64, *b*, are about 6 inches in diameter and 3.5 inches deep. The duck effigy bowl shown in plate 65, *a*, is one of two found used as burial offerings. It is 8.5 inches in diameter and 4.5 inches deep. In plate 66 is shown an open bowl with rim elevated on opposite sides, each point terminating in a small strap handle. The



L3
L2
L1
45
R1
R2
R3
R4
50
40
35
30
20
15
N
LA° 13
HORIZONTAL PLACEMENT MAP
BURIALS & POTTERY
SCALE
5 4 3 2 1 0 5
FEET

FIGURE 14.

bowl has two rows of small external knobs below the rim. Such vessels are so highly specialized as to suggest manufacture primarily for burial purposes. Because of their form they do not appear well adapted to serve as utility vessels. They have been previously reported by Moore [11] from Tick Island.

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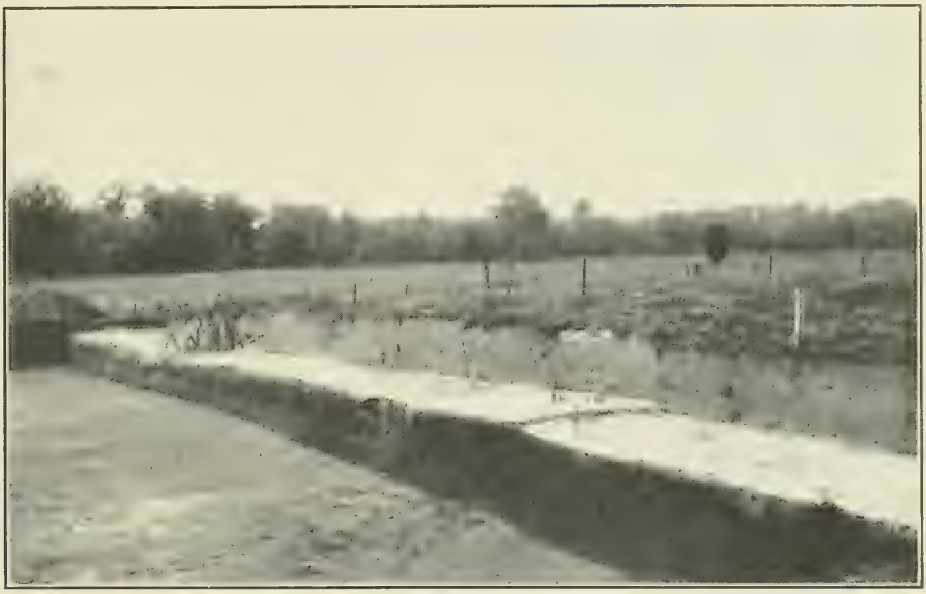
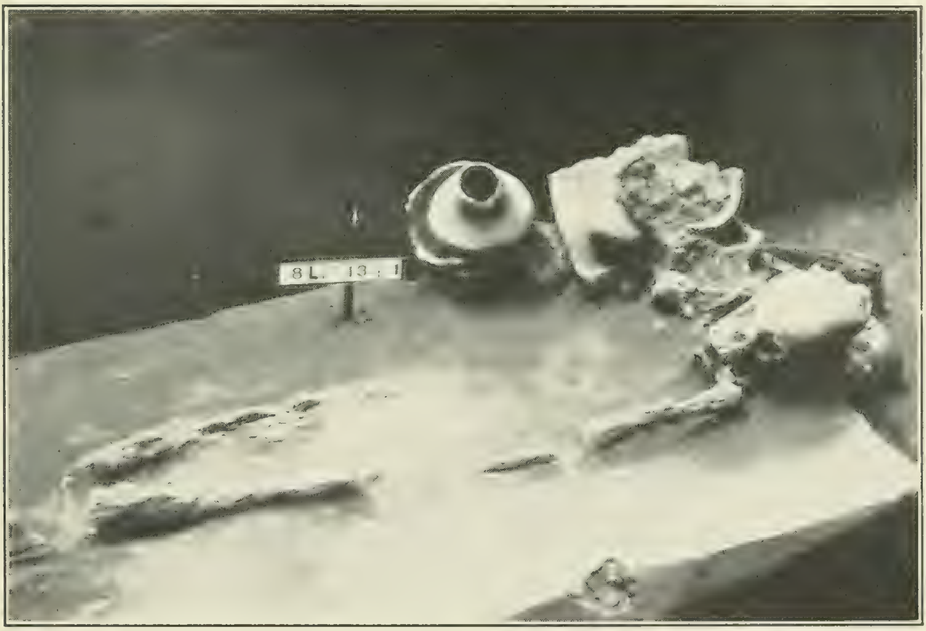
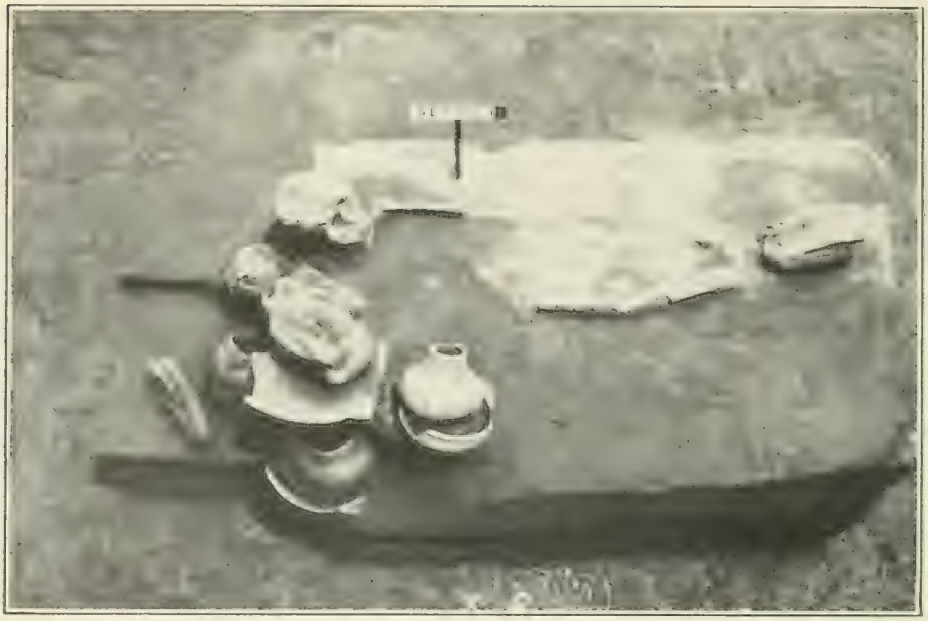
[11] Moore, C. B. Aboriginal Sites on Tennessee River. Journal of the Academy of Natural Sciences of Philadelphia, 1915, 2d series, vol. XVI, pt. 2, p. 256.



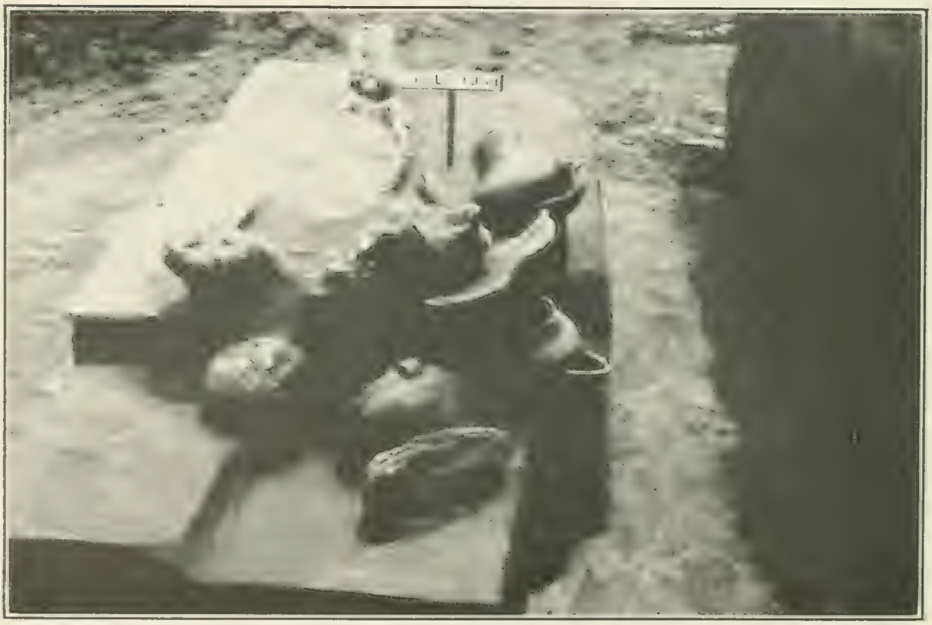
a, The 15-foot profile from northeast, Site La° 13.



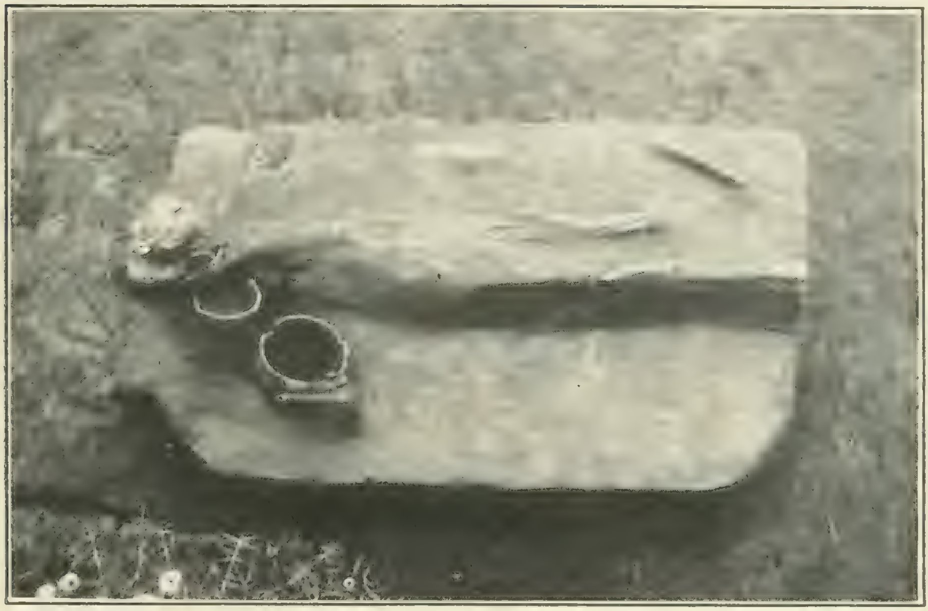
b, Burial in block 15L3, La° 13



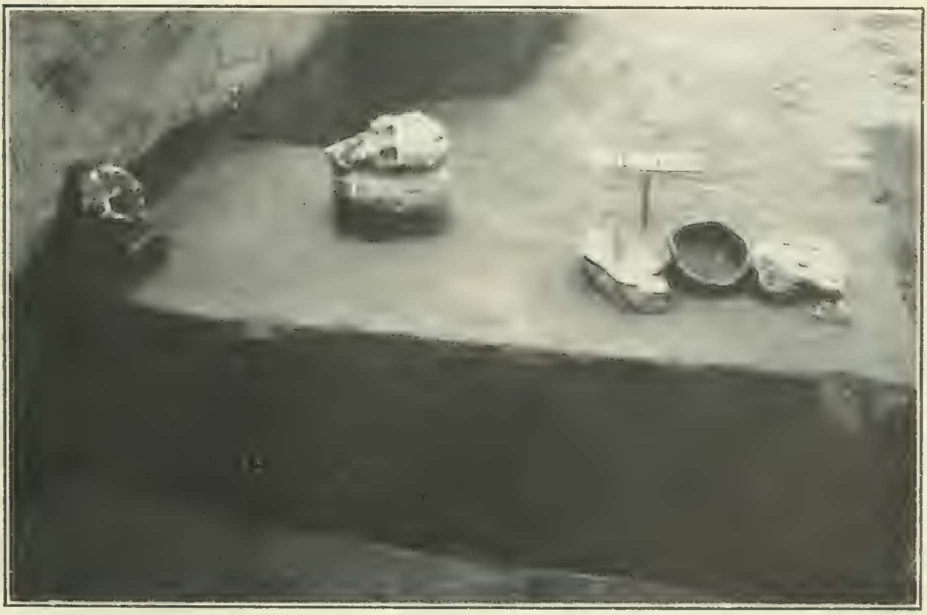
a, Burial No. 1 viewed from west, Site La° 13.



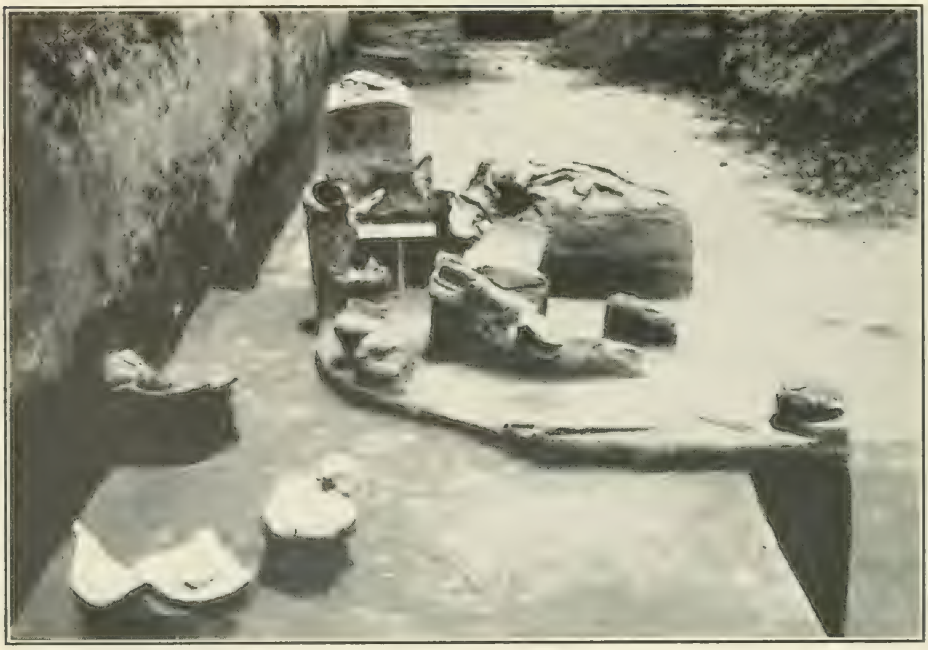
b, Burial No. 1 viewed from north, Site La° 13.



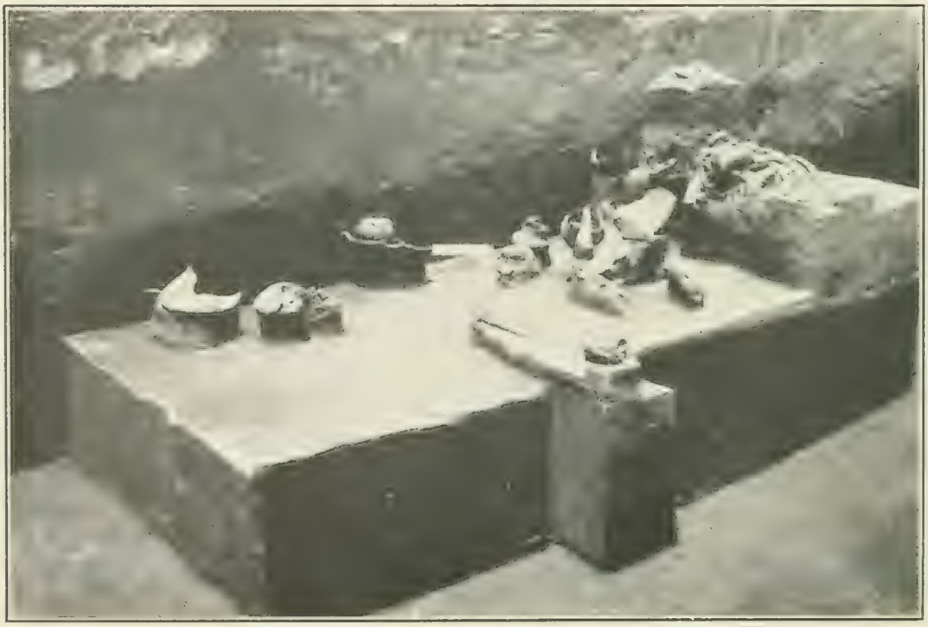
a, Burial No. 2 immediately below Burial No. 1, Site La° 13.



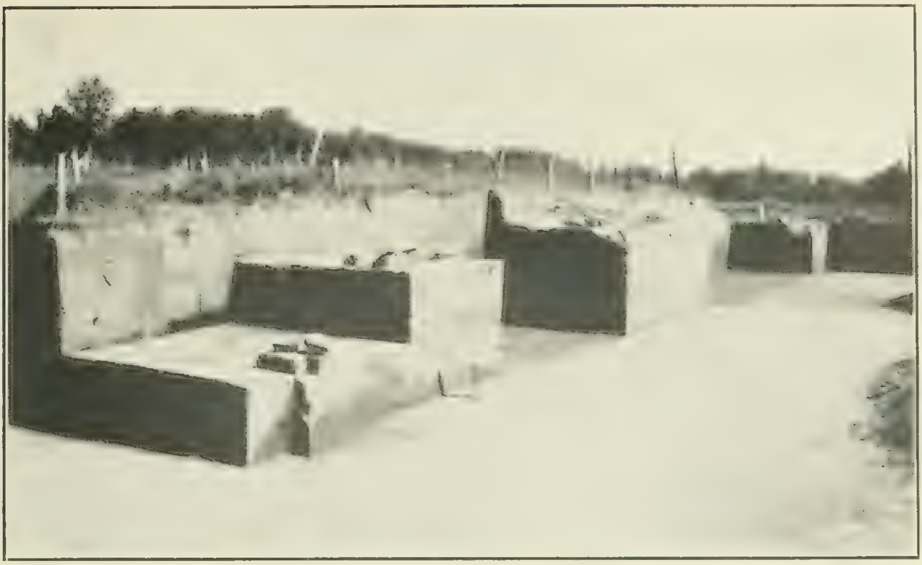
b, Three skulls and associated vessels, Site La° 13.



a, Group of skulls and vessels in 25L3, Site La° 13.

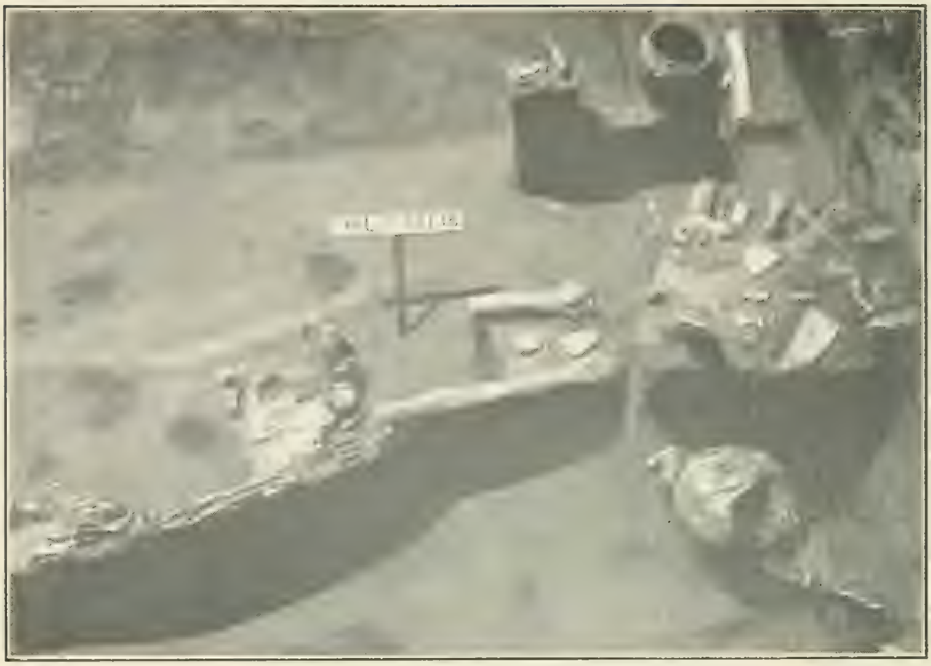


b, Group of skulls viewed from west, Site La° 13.

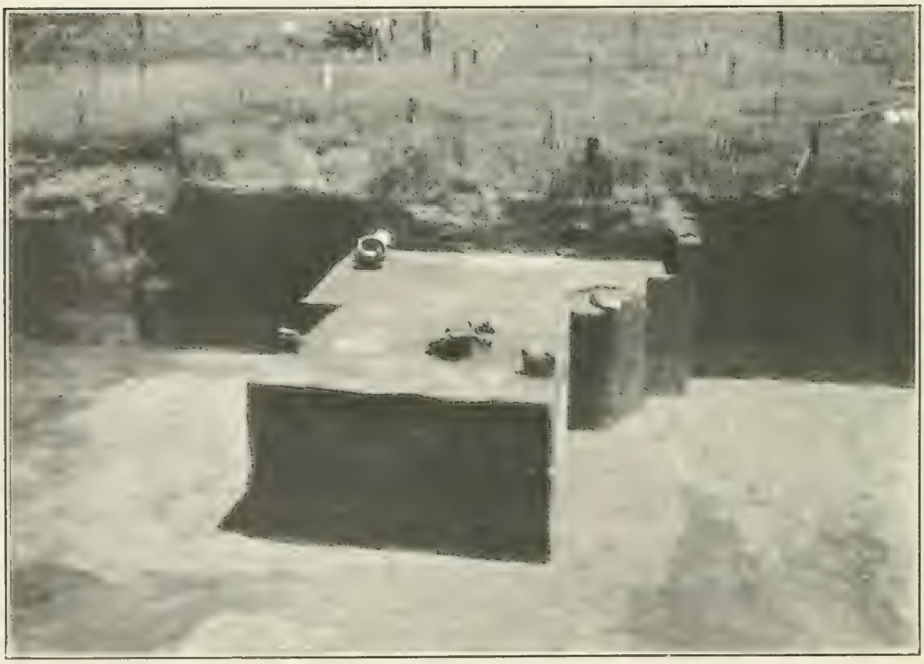


a, Method of excavating 30-foot profile, Site La° 13.

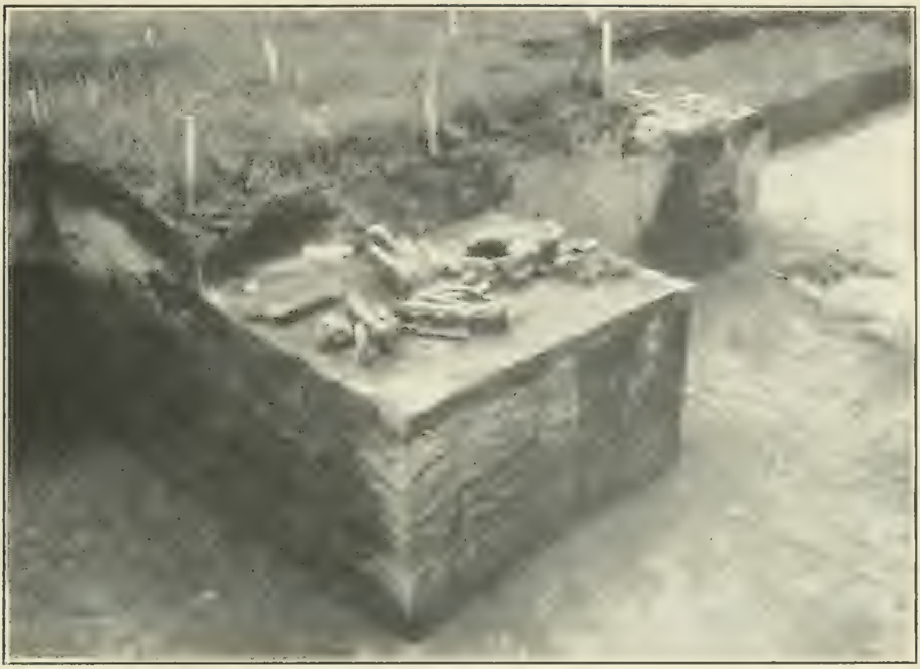
b, The 20-foot profile, Site La° 13.



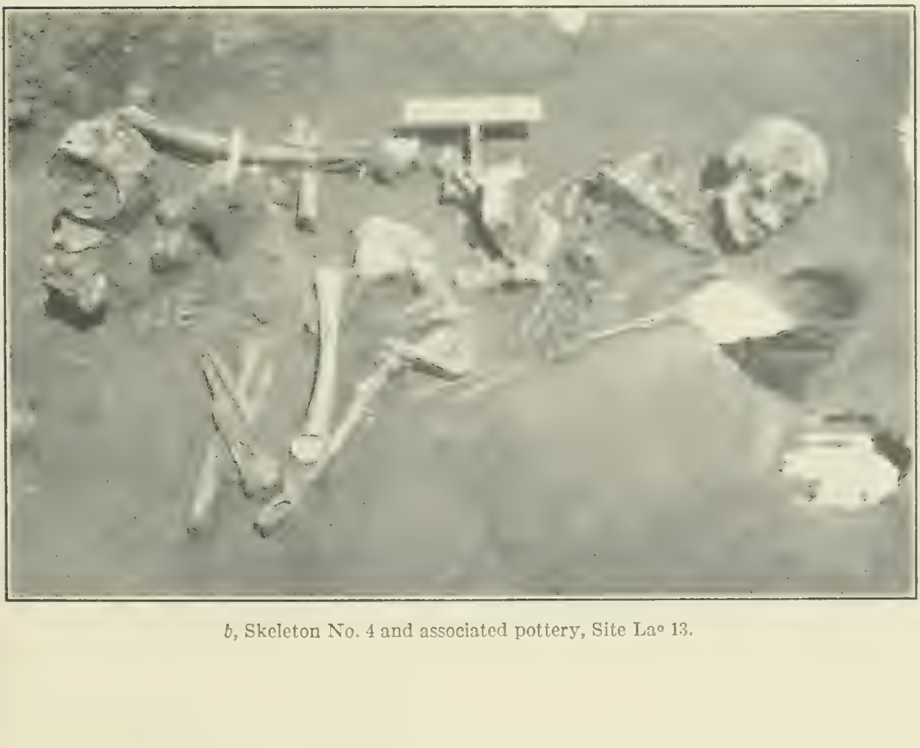
a, Group of skeletons in Block 35R2, Site La° 13.



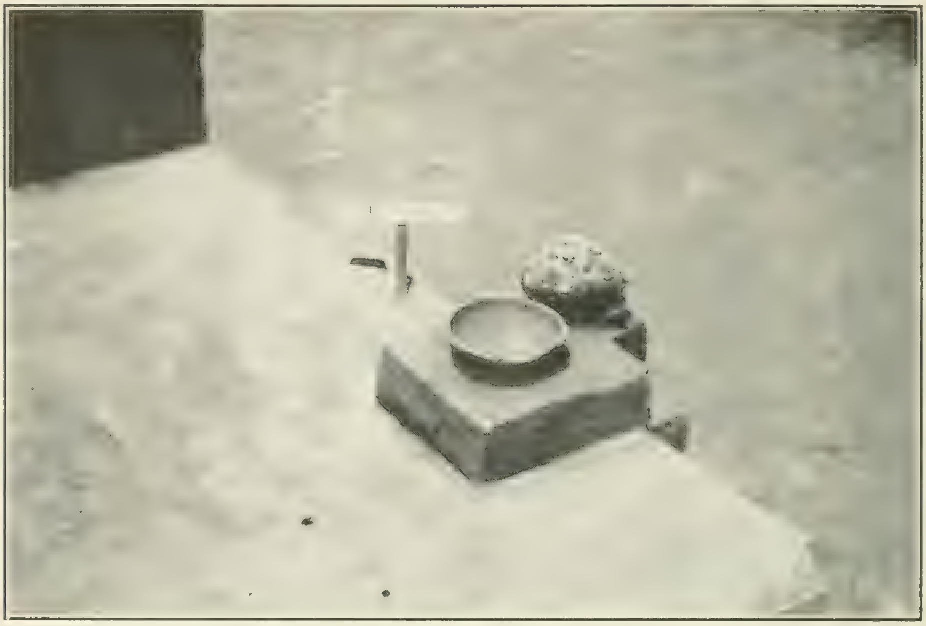
b, Duck-effigy pot and skull in Block 25L1, Site La° 13.



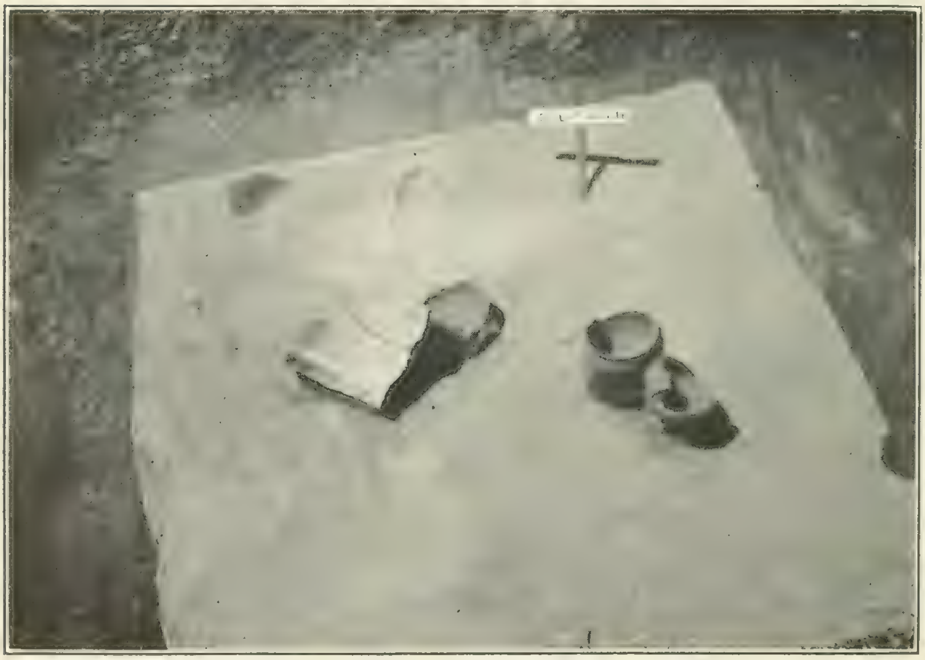
a, Seepage line at 20-foot profile, Site La° 13.



b, Skeleton No. 4 and associated pottery, Site La° 13.



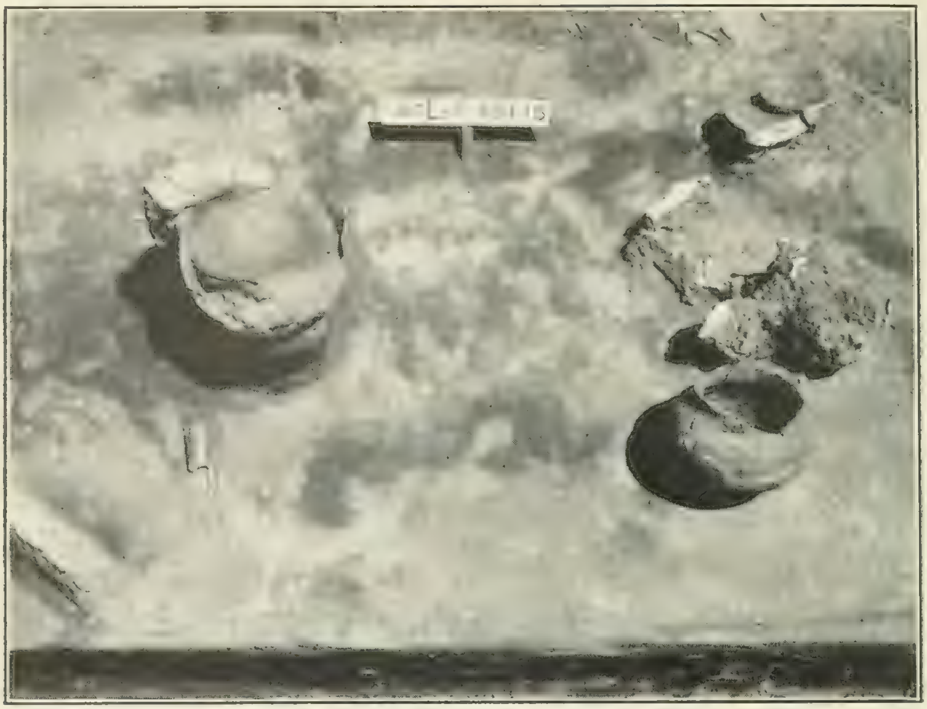
a, Individual skull and pottery bowl, Site La° 13.



b, Cache of pottery without burial evidence, Site La° 13.

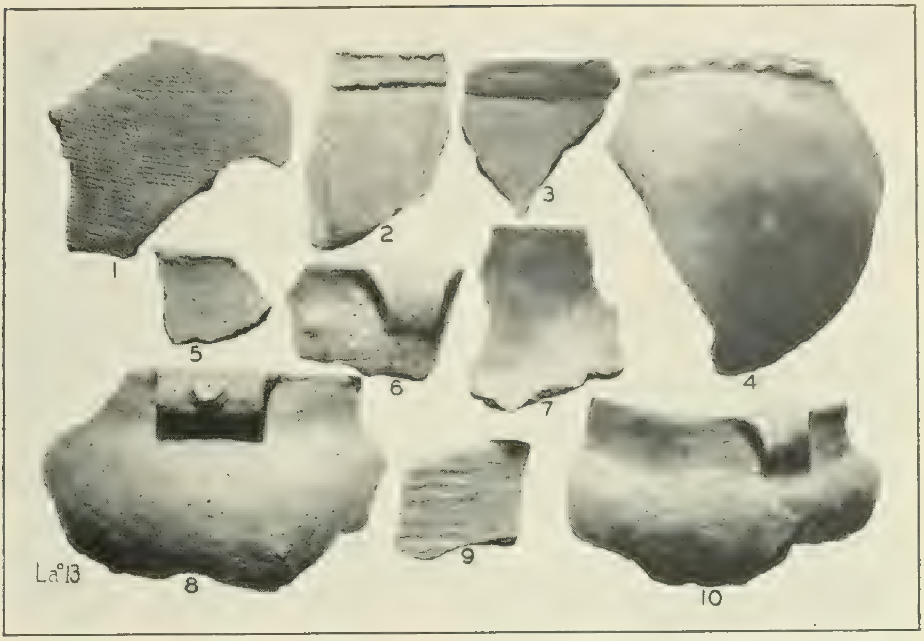
a, Single skull and large sherds, Site La° 13.

b, Deposit of vessels without burial, Site La° 13.

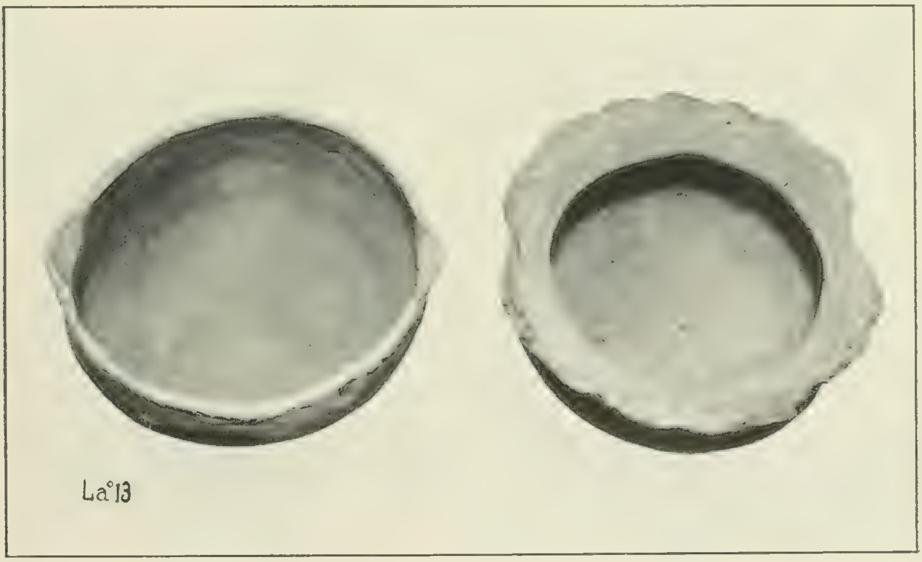


a, Single skull and vessel in Block 30R2, Site La° 13.

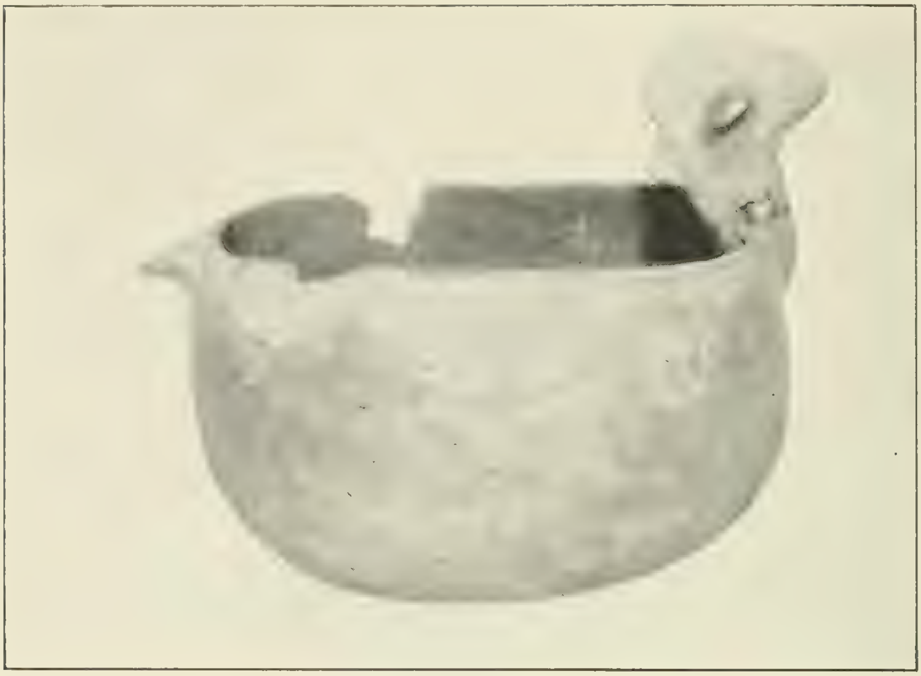
b, Last quarter of mound after heavy rain, Site La° 13.


1
2
3
4
5
6
7
8
9
10
La° 13

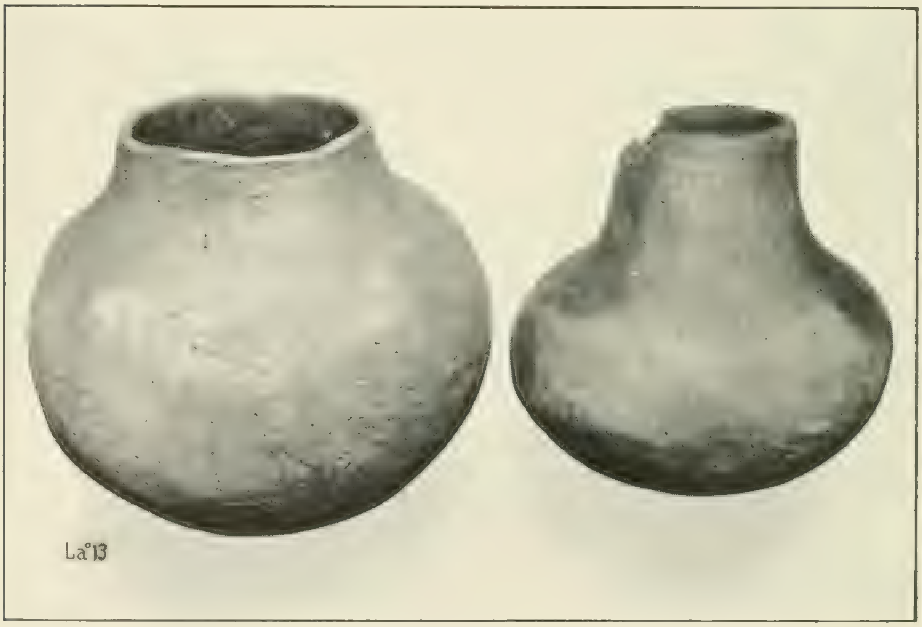
a, Selected sherds from Site La° 13.



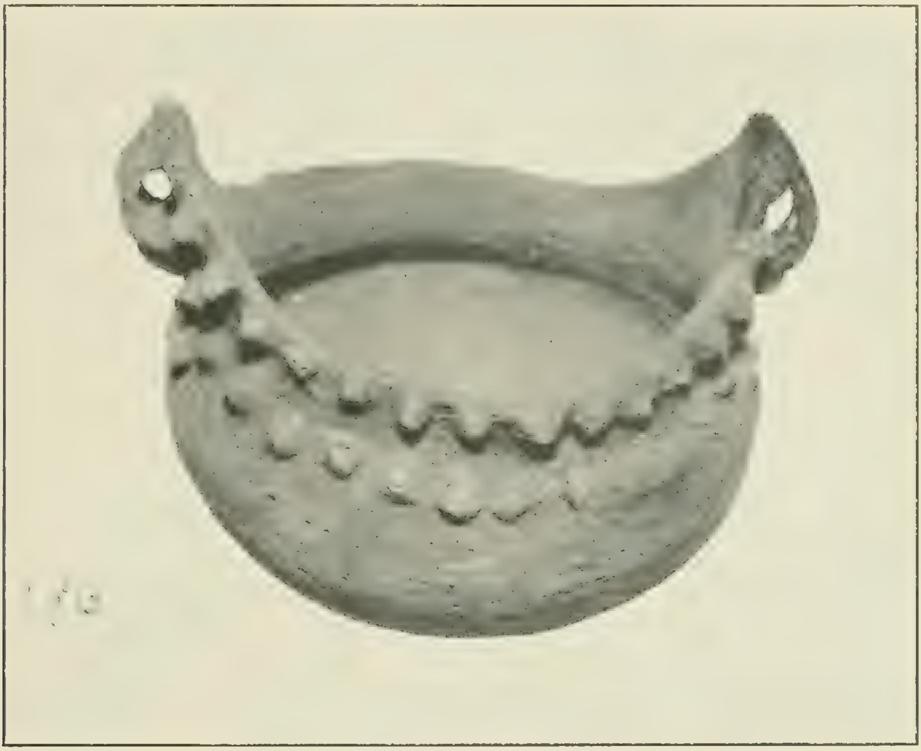
b, Shallow bowls used as burial offerings, Site La° 13.



a, Duck effigy bowl, Site La° 13.

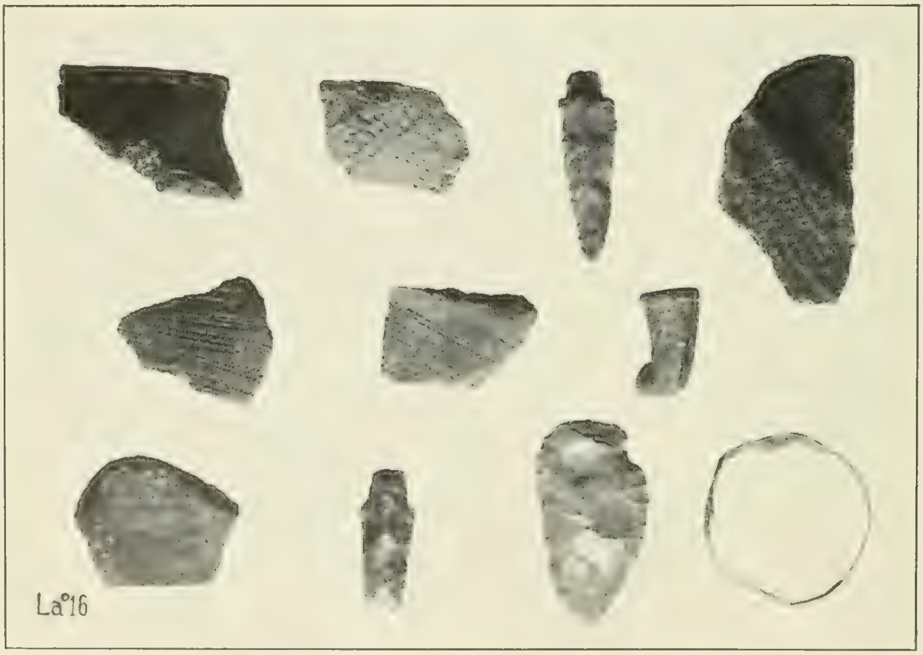


b, Typical water bottles, Site La° 13.



Ornate bowl used as burial offering, Site La° 13.

a, Site La° 16 staked off.



b, Artifacts from Site La° 16.

CONCLUSIONS

Site La° 13 was a burial mound, all burials being inclusive. It was precedent to the adjacent village, since the village rested on a heavy shell-midden layer, which did not extend under this mound. Furthermore, while in the village the midden debris contained clay- and grit-tempered pottery sherds having stamped and cord-paddled decoration, no sherds of this kind were taken from the undisturbed portion of the mound proper. All intentional pottery inclusions in the mound were shell-tempered vessels. This mound is known to have had its top removed and to have been plowed down on its sides. Grit-tempered sherds were found on the sides of the mound in the upper layer. It is believed that the occupants of the adjacent village, who made grit-tempered pottery, were later occupants of this site, and that some of their village rubbish, including grit-tempered sherds, was deposited on the top and sides of the mound, perhaps long after it was built. When it was plowed down such sherds were moved toward the periphery of the mound and covered over on its sides in the upper layers.

The mound was built by a people who used for burial offerings only shell-tempered vessels. They deposited the dead in the flesh as extended or flexed bodies. Sometimes they buried bones in bundles and sometimes single skulls were deposited. Pottery was the only mortuary offering. They seem to have had no copper, no greenstone celts or spades, and no galena. The finding of one fragment of greenstone celt on the top of this mound would seem to indicate that such celts were brought on the site after the mound was built.

So different are the cultural traits of this site from those presented by La° 14 that it is not possible to see any connection whatever between the two, although they were quite similar in outward appearance and only about 2,000 feet apart on the same side of Tick Island.

SITE La° 16

This site was located on Tick Island. It was a low mound of shell and midden material which rose very gradually from the surface level of the island. It had been subject to cultivation, and plowing had considerably spread the shell heap.

It was staked off 80 by 70 feet, as shown in plate 67, *a*, in preparation for excavation, and trenching was begun just prior to an unprecedented rise in the Tennessee River, which put the site under water for some weeks. After it was again accessible it was not possible to procure a quota of laborers to continue this investigation, so the site was abandoned.

Within a brief trench which was dug before the site was flooded a single skeleton was found. This was an extended burial of a body in the flesh. It was only about 14 inches below the surface and the head and shoulders were missing; probably destroyed by the plow. The other portion of the skeleton was in very good condition. This very brief investigation would seem to indicate that this shell mound was a burial mound in which an extended burial had been made without artifacts.

In the general digging, artifacts and sherds shown in plate 67, *b*, were found. These consisted of a few projectile points, a pottery elbow pipe shell tempered, and a thin metal ring some 3 inches in diameter which was perhaps a bracelet. It was badly corroded and appeared to be an alloy of brass. If deposited by the Indians on this site, it would seem to indicate white contact. There are a few plain sherds, shell tempered; and the remainder were cord impressed or matting impressed and grit tempered.

SITE La° 40

This site is located in Lawrence County about 1 mile above Tick Island, near Lamb's Ferry on the Tennessee River. The cave is situated about 20 feet up in the bluff, which parallels the river several hundred yards back from its normal bank. There are two caves containing beds of ashes and remains of aboriginal man. The cave farthest downstream, shown in plate 68, *a*, was chosen for investigation because it had been previously less disturbed than the other, although several pits had been dug into it.

The cave is in a very fossiliferous limestone, containing many crinoids and bands of chert. Originally it consisted of two or more chambers, but the second chamber had collapsed, leaving only the outer one accessible. The floor of the cave is very irregular, as shown in plate 68, *b*.

The beds of ash covering the floor, however, present an even, regular slope, rising toward the back of the cave. The floor plan and cross section of the cave are shown in figure 15. These beds, which varied in thickness from thin layers to 6 feet, were laid off in 5-foot squares, which were cut down in 6-inch levels and much of the material screened. The surface was covered with aboriginal remains and modern evidences were slight. The ash contained many mussel and univalve shells and occasional burned floors of clay. The deposits were located near the mouth, playing out into nonproductive clay at the back.

All burials in the cave had been previously disturbed. Human and animal remains were scattered throughout the deposits. The cave is damp, so most of the skeletal material was completely disin-

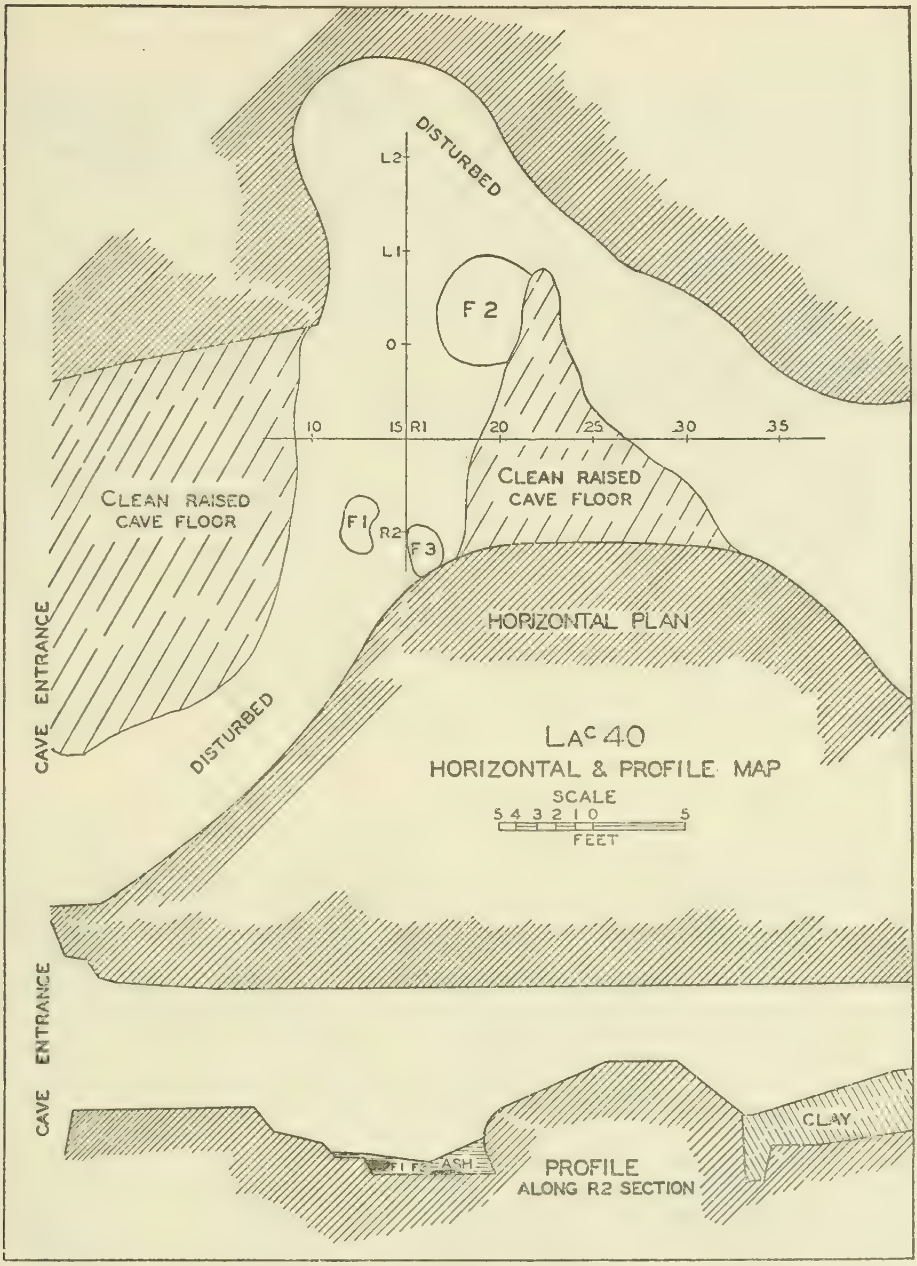

DISTURBED
L2
L1
0
F 2
F 1
R2
F 3
10
15 R1
20
25
30
35
CLEAN RAISED CAVE FLOOR
CLEAN RAISED CAVE FLOOR
HORIZONTAL PLAN
CAVE ENTRANCE
DISTURBED
LA^C 40
HORIZONTAL & PROFILE MAP
SCALE
5 4 3 2 1 0 5
FEET
CAVE ENTRANCE
CLAY
F1 F3 ASH
PROFILE
ALONG R2 SECTION

FIGURE 15.

tegrated. Teeth and phalanges, being more resistant, were common. Incisors were typically shovel-shaped. Numerous fragments of infants and children suggested high mortality at early ages.

One special feature in this cave is of interest. From a crack in the cave roof, where it is very low, in block 20L2 in the plan of excavation, travertine has been and still is depositing. At some previous time this deposit was interrupted and later recommenced. In the meantime a 4-inch layer of ash was deposited over the old travertine floor. The existing travertine pillar resting on this ash is 8 inches long, 10 inches broad, and 5 inches thick. The ash, thus sandwiched in, contained flint chips, mussels and univalves, bones, a potsherd, burned nuts, and charcoal. The rate of travertine deposition is variable, of course, but this is as heavy a deposit as there is in the cave and it would seem to indicate the lapse of considerable time since the ash bed was laid down.

The pottery sherds discovered were over 64 percent shell tempered at all levels, attaining as much as 88 percent in the 1-foot level. With the exception of some incised, crosshatched lines on one sherd, all shell-tempered pottery was undecorated. Grit tempering was the next most frequent type of all levels, ranging in some blocks up to 33 percent. Sand and burned clay were used as tempering materials to a much less degree.

Paddled and cord-marked sherds were rather common, but such surface finish never occurred on shell-tempered sherds. Incising was found on two sherds only. The lip was usually straight but sometimes everted, and in one case slightly turned in. The pot shapes were globular with straight, collarlike rims, or slightly contracted rims. Lateral notches on the lip and a raised notched band around the rim were very typical. A few selected sherds are shown in plate 69.

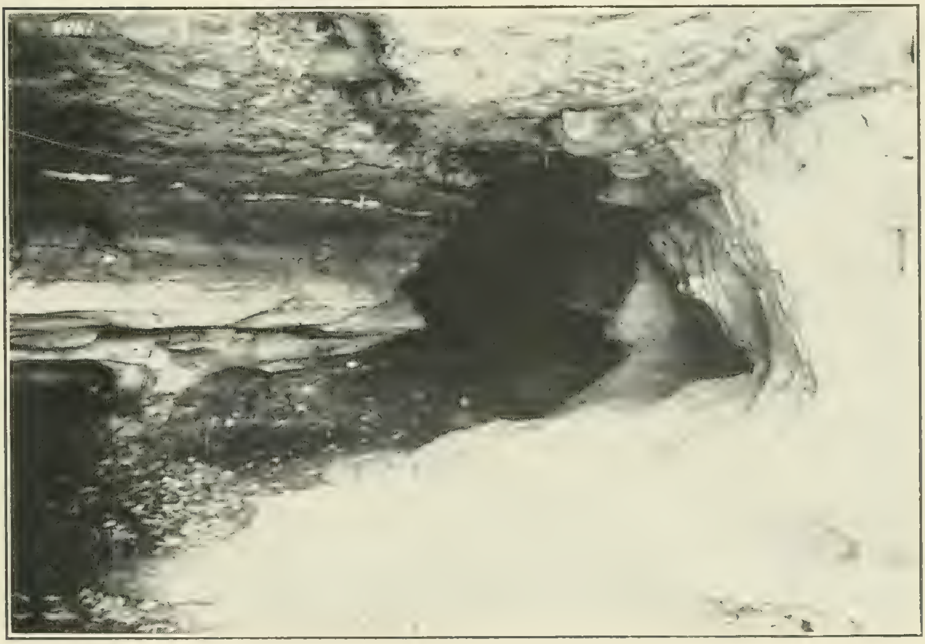
Strap handles predominated; only one had a decorated knob near the top. Three sherds show lugs, in one instance double. It is possible, however, that this sherd may be a section of rim having a series of lugs completely encircling the vessel. Three sherds of zoomorphic decoration were found, ranging in depth from 6 inches to 2 feet in the ash. One represents the head of a wood duck, another possibly a bat, the third has lost the head. One fragment of a clay pipe was found.

Because of irregular deposition and previous disturbance, evidence of stratification is blurred if it ever existed. The pottery types described are typical of the ash-bed inclusions from top to bottom.

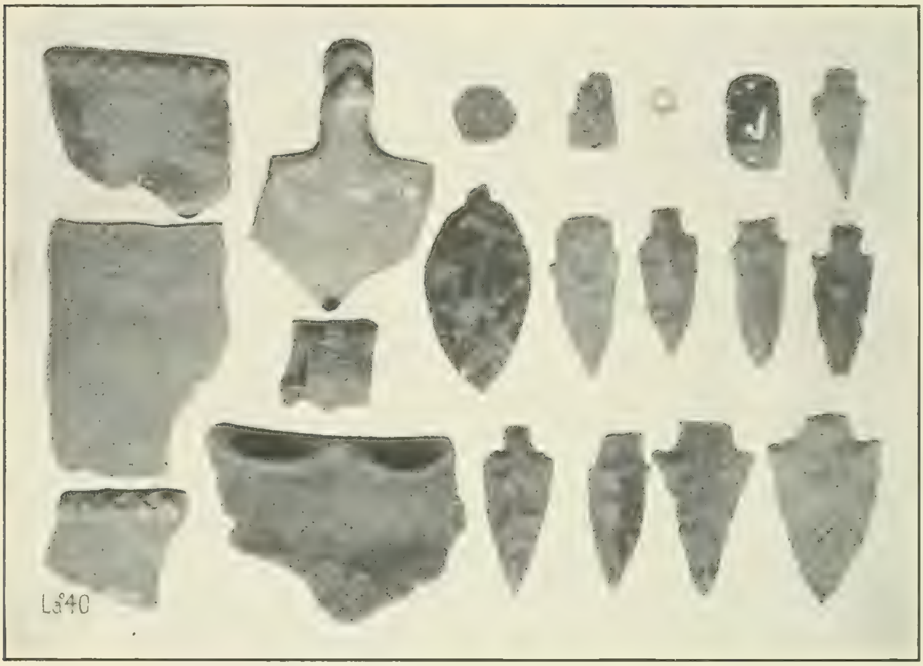
The only types of flint points represented throughout are stemless, straight-based points, and those with straight stems and square shoulders, as shown in plate 69. All of these are crudely flaked.

Other stone artifacts found in the cave were numerous hammerstones, a very crude quartzite hoe (broken), a finely polished greenstone celt, and a lapstone. A few bone awls and spatulas were found. Circular beads were cut from mussel shell and spherical ones of shell were also found. Crinoids, which might easily occur naturally, were in sufficient numbers to suggest their having been used as beads. One was apparently worked. Shell was also used to make a small pendant and simple gorget, both covered with limonite.

a, Bluff shelter, Site La^c 40.



b, Cave entrance, Site La^c 40.



Artifacts and sherds, Site La° 40.

One disk of beaten copper, 0.9 inch in diameter, with a hole through the center and a smaller one punched through nearby, was found. This, like some of the points, may be intrusive.

There was osteological evidence of raccoon, ground hog, fish, opossum, squirrel, turtle, deer, bear, and wild birds.

CONCLUSIONS

From the relatively small amount of material from this site it is difficult to draw any very important conclusions. It is interesting to note, however, that copper and greenstone artifacts are found here, together with potsherds of both shell and grit temper. This would seem to suggest that this cave has in its day sheltered the two seemingly distinctive groups which are responsible for Sites La° 37, 13, and 14 in the general neighborhood.

It is a matter of regret that this site, as well as cave La° 39, had been so disturbed that all evidence of stratification, if it ever existed, had been lost. It may never be possible to say definitely which of the two peoples, as represented by La° 13 and La° 14, was precedent to the other, but it is believed that both groups have occupied the shelter at some time and that there was once a record of superposition of one over the other, now unfortunately obliterated by previous disturbance.

SITE Li^v 36

Site Li^v 36 was a shell mound situated on Mason Island in the Tennessee River in Limestone County, Ala. The site was on the north bank of the river and about 200 yards from the head of the island. Its total extent was 750 feet in length and 150 feet in width, but the central and higher portion was only 375 feet by 150 feet. This was again split up into two mounds, A and B, separated by a shallow accumulation of midden material, as shown on the plat of the site (fig. 16).

Mound B was selected for the first exploration because it was the larger and because it was seemingly undisturbed. Mound A was reported by residents of the island as having been partly excavated by Moore[12] in 1914. A base trench 150 feet long was opened at the north side of the mound about 150 feet from the bank of the river. The water table was high because of the backwater, and water was struck in this trench after excavation to a depth of a little more than 1 foot. Work was temporarily abandoned in this trench and trenches L10 and R9, each 100 feet long, were extended north and south across the mound. These trenches formed the east and west sides of a 100-foot square, which was staked in 5-foot blocks and elevation taken from which the plat was drawn. Both of these trenches were carried down to a depth of 2.5 feet, which was below shell deposit and into virgin sandy clay. At the northern ends of these trenches water was again struck at a depth of about 2 feet and excavation was temporarily abandoned in these trenches until the water table lowered. Trench 100 was begun, which ran east to west across the crest of the mound. This resulted in outlining a 100-foot square as shown in plate 70, *a*. Because of the discontinuance of the labor supply it was only possible to excavate sixty of the four hundred 5-foot squares thus surveyed. A second trench in the southwestern portion of mound B, and a trench in mound A, as shown in the plat of the site, allowed an additional eighteen 5-foot squares to be excavated before the close of the work on this site because of a shortage of labor.

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[12] Moore, C. B. Aboriginal Sites on Tennessee River. Journal of Academy of Natural Sciences, 2d series, vol. xvi, pt. 2, 1915, Philadelphia.

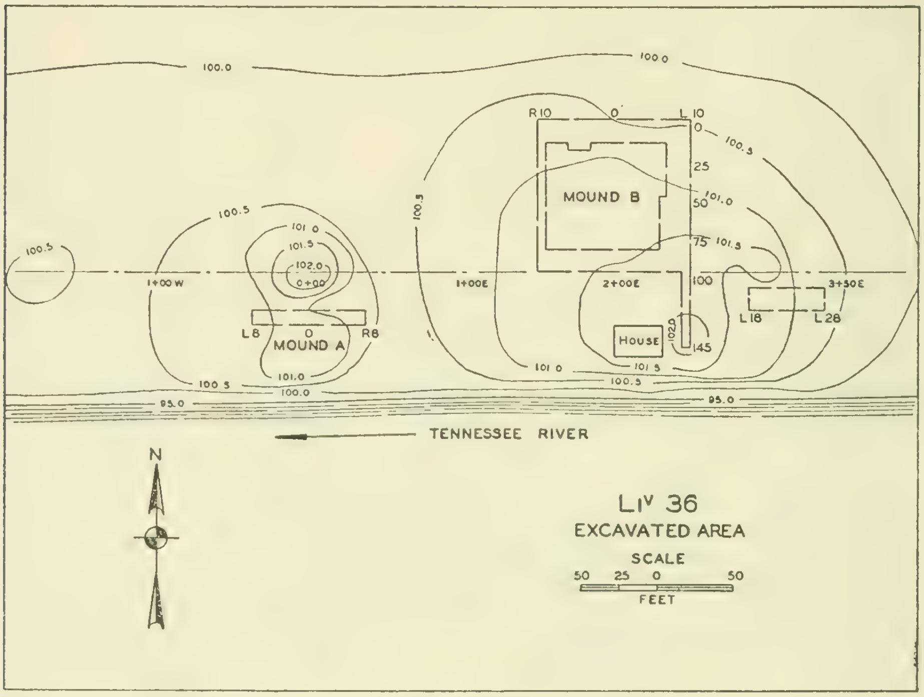

100.0
100.0
100.5
100.5
101.0
101.5
102.0
0+00
1+00W
1+00E
2+00E
3+50E
L8
0
R8
MOUND A
101.0
100.0
100.5
95.0
R10
0
L10
0
25
50
75
100
145
101.0
101.5
100.5
MOUND B
HOUSE
102.0
L18
L28
101.0
101.5
100.5
95.0
TENNESSEE RIVER
N
LIV 36
EXCAVATED AREA
SCALE
50 25 0 50
FEET

Figure 16.

The mound was found to consist of a village deposit of kitchen midden of mussel and univalve shells and sandy soil. There were fragments of pottery, animal bones, and other refuse. The shell at its deepest point ended at 2.8 feet below the surface, while the average depth was about 2 feet. The layer of topsoil was generally about 6 inches thick.

Twenty-nine fireplaces and clay floors were found (pl. 71, *b*). They ranged from a depth of 1 foot to 1.5 feet, the majority being at the lower depth. They were made of burned red and yellow clay. Some had burned shell, ash, and scattered charcoal in association. Such a fireplace is shown in plate 70, *b*. At the edge of one of these hearths, in block 50L10, the skeleton of a dog, in natural sleeping position, was curled (pl. 71, *a*).

A roughly circular clay floor about 5 feet in diameter was found at a depth of 20 inches in square 5R6. Near the edge were many flint chips which seemed to indicate the site of a workshop.

The western half of the base trench and the 5-, 10-, and 15-foot trenches produced most of the burials. Here 15 skeletons were found. The 110–115L, 18–28 trenches contained 8 burials. At least 5 more were discovered but were not removed because of the closing of the work on this site. Trenches 2, 10, 9, 8, and 7 contained only 4 burials. It was here, however, that the greater number of fireplaces were found, which seemed to indicate that they were perhaps located nearer the center of the village and the burials were at the edges of the mound.

Scattered artifacts were found at all levels in the excavated region, as well as potsherds and animal bones. Also deer bones, as well as the bones of wild turkey, elk, bear, and catfish, were frequently found.

Mound A was not very productive. A few artifacts and potsherds were found. The 5-foot trenches seemed to show that stratification in the shell had been disturbed. This seemed to indicate that a portion of this trench had extended into the excavation previously made by Moore in 1914.

BURIALS

Burial No. 1.—This was an adult male, flexed on the right side. It was found at a depth of 14 inches in square 5L7. It lay near the top of the shell heap and the bones were poorly preserved. This burial had been partially disturbed, possibly by cultivation, as shown in plate 73, *a*.

Burial No. 2.—This was an adult female, flexed on the back, with face and legs to the left. It was found at a depth of 12 inches in square 15R2. It lay near the top of the shell heap and represents a simple interment in the midden. It is shown in the foreground of plate 72, *a*, which also presents burials Nos. 3 and 4.

Burial No. 3.—In square 10R2, at a depth of 10 inches, was found the skeleton of an adult male, fully flexed on the right side. This burial had been disturbed by the plow and a considerable portion was missing, as shown in plate 72, *a*.

Burial No. 4.—At a depth of 13 inches in square 5R2 was found an adult male burial, seemingly a very old individual. The body had been flexed on the right side. This burial is shown in the distance in plate 72, *a*.

Burial No. 5.—This was an infant extended on the back. It was found at a depth of 18 inches in square 115L10. The bones were in poor condition and the lower limbs and right hand were missing. There were in association nearby three pottery vessels, as shown in plate 73, *b*, and lying on the skeleton there were two earplugs and many shell beads. Some 3 feet from the lower extremities was found a small discoidal. In one of the pottery vessels, which had been much damaged, were found two shell spoons, one showing considerable carving, and a clay pipe. The grave had been damaged by the plow in cultivation of the area and the loss of the lower limbs and damage to the vessels were certainly to be accounted for in this way. The portions of the pots coming within range of the plow had been cleanly cut away and removed.

Burial No. 6.—This burial was little more than a heap of broken bones, as shown in plate 72, *b*. It was an adult male which had probably been fully flexed, but which was found badly disturbed at a depth of 10 inches in square 10R6.

Burial No. 7.—This was an adult burial badly crushed and decayed, found at a depth of only 7 inches in square 100L8. Only fragmentary bones remained and placement of the body was indeterminate.

Burial No. 8.—An adult female burial, flexed on the left side with arm extended toward the pelvis, was found at a depth of 27 inches in square 5R6. This simple interment extended about 16 inches into the shell layer and was 9 inches below a burned clay fireplace, to which it was antecedent, but probably not in association. This skeleton was badly crushed but all bones remained in place undisturbed. It was probably subjected to considerable pressure due to occupation immediately above it, which may account for its condition.

Burial No. 9.—This burial was a young female, possibly from 14 to 18 years of age. The body was fully flexed on the right side, the left arm bent to the chin and the right arm to the pelvis. The bones were badly crushed. Burial was at a depth of 26 inches in square 5R5. The body had been interred in an area of burned shell, although showing no effects of fire in itself. This grave was about 8 inches below a burned clay layer which was regarded as a fireplace. Positive association with this fireplace was not evident. It seems reasonable to ascribe to the hearth a later construction than the burial.

Burial No. 10.—In square 0R4, at a depth of 27 inches, was found an aged male. The body had probably been fully flexed on the left side but the bones were disintegrated and only small bits of individual bones were identifiable.

Burial No. 11.—The skeleton of an infant was found at a depth of 27 inches in square 0R5. The body had been flexed on the right side, but was found badly deteriorated. This burial was intruded into the shell 16 inches below the top of the shell layer, and probably represents an early burial on this site.

Burial No. 12.—This was an adult female fully flexed on the right side at a depth of 21 inches in square 5R3. This skeleton was in fair condition. The burial was made in the shell layer but the skeleton lay on a clay floor. At the right side of this burial and about 4 inches deeper lay the skeleton of an infant, several years old, designated as burial No. 18. It appeared that these were in association and therefore represented a double burial. These burials are shown in plate 74, *a*.

Burial No. 13.—At a depth of 26 inches in square 5R2 there was an adult male fully flexed on the right side. The skeleton, which was in fair condition, had been placed in the shell layer 5 inches below the clay floor extending into 5R1.

Burial No. 14.—Twenty-five inches below the surface in square 0R1 was found an infant flexed on the left side. The burial was 4 inches below the clay floor which extended into square 5R1.

Burial No. 15.—An adult male, fully flexed on the left side, was found at a depth of 21 inches in square 10R0. This was the lowest level of shell on the clay floor which extended into square 10R1. The burial is shown in plate 75, *b*.

Burial No. 16.—At a depth of 15 inches in square 15R1 there was an adult female placed on its back with legs flexed to the left. The skull had been crushed, but the skeleton was in fair condition, as shown in plate 75, *a*.

Burial No. 17.—This was a youth about 14 years of age, fully flexed on the left side. It was a comparatively deep burial, being 42 inches deep, in square 135L10. The burial had been intruded 5 inches into the soil below the shell layer. The skeleton was in very poor condition due to decay and the skull had been crushed. This burial probably represents a very early stage of this midden site.

Burial No. 18.—This was an infant under 5 years of age, buried on its back with the legs flexed to the left. It was associated with burial No. 12, shown in plate 74, *a*. Its grave had been cut some 4 inches into the clay hearth on which burial No. 12 lay.

Burial No. 19.—An infant under 5 years of age, flexed on the right side, was found several feet to the left of burial No. 12. This burial was at a depth of 25 inches in square 5R3. It was in very poor condition; crushed and decomposed. It was on top of the clay floor, but in the shell layer.

Burial No. 20.—Just below the shell layer at a depth of 24 inches in square 20L10, there was an adult female, fully flexed on the left side. The bones were fairly well preserved. Near it were two stemless projectile points and a piece of cut deer horn. They were not positively associated with the burial and are probably intrusive as accidental inclusion in the shell layer.

Burial No. 21.—Plate 74, *b*, shows an adult female fully flexed on the right side. It was found at a depth of 16 inches in square 110L20, in the top of the shell layer. The condition was fair.

Burial No. 22.—This was an adult female fully extended on the back with hands at the sides, as shown in plate 76, *a*. It was found at a depth of 18 inches in square 115L25. The skull was crushed but otherwise the skeleton was in good condition. Under the skeleton, 4 inches below the right humerus and at a depth of 24 inches from the top of the mound, a water bottle was found. A second water bottle was found on the left side, 4 inches below the jaw. This burial was in the shell layer and not associated with any clay floors. The fact of its being an extended burial and having mortuary offerings, and being in the upper part of the shell layer, would definitely suggest a later intrusive burial by a people having very different customs from those of the original builders of this midden deposit.

Burial No. 23.—At a depth of 11 inches in square 120L25 there was an adult male fully flexed on the right side. It had been badly disturbed, probably by the plow. It lay on the top of the shell layer and was thus a shallow interment, as shown in the foreground of plate 76, *b*.

Burial No. 24.—A youth, possibly about 16 years of age, was found flexed on the left side at a depth of 20 inches in square 115L26. The bones were badly broken but otherwise the skeleton was well preserved. The burial is shown as the second in the foreground of plate 76, *b*. Some 15 inches distant from the head of this burial was found an open vessel with straight neck and everted lip, on the same level and equidistant from skeleton No. 27. It was not possible to determine which burial this vessel was associated with, if either.

Burial No. 25.—This was an adult male fully flexed on the left side. It was found at a depth of 13 inches in square 115L27. This burial, which extended only 7 inches into the shell, had been much disturbed by the later burial of No. 26. Both burials are shown in the distance on the right side of plate 76, *b*.

Burial No. 26.—This was an adult burial found at a depth of 10 inches in square 115L26. Burials Nos. 25 and 27 had been disturbed when the grave was dug for burial No. 26, and consequently No. 26 was so disturbed, possibly by plowing, that its exact placement could not be determined.

Burial No. 27.—This was a young male flexed on the left side. A portion of the skeleton had been removed in preparing the grave for burial No. 26. Except for the post-burial disturbance the bones were in fair condition. It was located at a depth of 20 inches and was 10 inches deep in the shell layer in square 115L26.

Burial No. 28.—This was an infant flexed on the right side, buried at a depth of 18 inches in square 115L25. The skeleton was identified by only a few long bones, as much of the skeleton had been completely decomposed. In association with this burial there was a large pottery bowl placed in front of the head of the skeleton and a smaller shallow bowl, with raised lugs on the rim, near the top of the head. This burial was in the top of the shell layer and 4 inches below a burned-clay floor.

There were thus a total of 28 burials removed from this site. Five others were discovered but were not excavated because of the closing of the work on this site. There were doubtless many more skeletons in this midden deposit. It would appear that these burials represent 10 males, 8 females, 5 infants, and 5 of undetermined age and sex. Such determination under field conditions has such a chance of error that percentage would be meaningless. The position of these burials was found to be as follows:

Flexed on right side	11
Flexed on left side	11
Extended (dorsal)	2
Undetermined	4

In general, the skeletons were never closely flexed, the legs varying in position from an angle of 45° with the spinal column to an angle of 90°. Three of the skeletons, while their legs were flexed to the side, were in a dorsal position.

ARTIFACTS

Plate 77, *a*, shows a number of the bone artifacts found scattered throughout the shell midden. Awls from the tarsometatarsus of wild turkey and from the cannon bone of deer, as shown in the lower left of plate 77, *a*, were numerous. Other forms of split-bone awls and cut and worked bone were plentiful. Three fishhooks were found, as shown. The largest was 1.4 inches in length and the smallest 0.75 inch in length. From an inspection of sections of cut deer ulna, found on this site, it is believed that these hooks were cut from this bone and that the ulna of deer was used extensively for that purpose. Many deer-horn sections, about 3 inches long, cut squarely off and ground at the ends, were found. These appeared to be drifts, possibly used in shop work in the manufacture of flint artifacts. The pipe shown in plate 77, *a*, together with the two shell spoons shown in the lower left corner of plate 78, *b*, were found associated with burial No. 5, as was the small string of beads and the two earplugs of shell surrounded by it. The use of large marine shells seemed to be general at this site. Many sections of cut shell of considerable thickness were found scattered in the midden. These appear to be trimmings cut off in the manufacture of some object from a large section of marine shell. There were also numerous pieces of the central column of large spiral shells, some of which are shown in plate 78, *b*.

Some of the artifacts of stone are shown in plate 77, *b*. Most of the projectile points were without stems. There were a few drills and flint scrapers. There were found four small discoidals and one broken, two-hole slate gorget.

Pottery

Only six approximately complete vessels were found in this excavation. Two simple open bowls, one 6.25 inches diameter and one 4.5 inches in diameter, were found. The last was taken from burial No. 28 and is shown in plate 78, *a*. Its only decoration consists of four pairs of small vertical lugs on the rim. One fragmentary duck effigy bowl, one plain pot 9 inches in diameter with two strap handles, and two small water bottles were recovered. The one shown in plate 78, *a*, is 3.25 inches high and was one of two taken from burial No. 22. This bottle had been crudely painted with red stripes. All of the nearly complete vessels were shell tempered.

Sherds show that both strap and round handles were used. Some handles were on a level with the rim and some were raised above the vessel rim. Samples of scattered sherds are shown in plate 79, *a* and *b*. Some of the sherds were of textile-marked heavy ware. These vessels were shallow pans, usually with simple rims, but here some rims were decorated by radial notches impressed by a round pencil-like tool. Only rectangular twined-weave impressions were found. Some sherds were of stamped ware, mostly gravel or grit tempered. The stamped pattern showed square, rectangular, and diamond-shaped mesh. Cord and grass paddled impressions were found, as was also a small amount of punctate decorations and incised sherds.

Conclusions

There was no complete culture change on Site Li^{v} 36 and very few signs of a cultural development. There does, however, seem to have been three phases in the making of the mound. A study of the profiles, presented in figure 17, of the 0-, 5-, and 10-foot, the L10, 9, 8, and the 110-, 115-, and 120-foot trenches shows three things immediately. First, a series of hearths, all within a few inches of being at the same level and practically all in the lowest level of the shell deposit, with their bases below it. Second, beneath this layer of hearths are many skeletons. Third, the remainder of the skeletons are "floating" in the shell midden, some within a few inches of the top.

It would seem logical, then, to attribute these hearths to the original settlers of the mound. The dead of this original group were buried below the level of the hearths, and so considerably below the present surface of the ground. The burials found below the hearths do not antedate them, as the hearths were disturbed by the burials. Skeletons Nos. 9, 13, 18, and 19, found 6 inches below the hearths in the 0-, 5-, and 10-foot trenches, are examples of this.

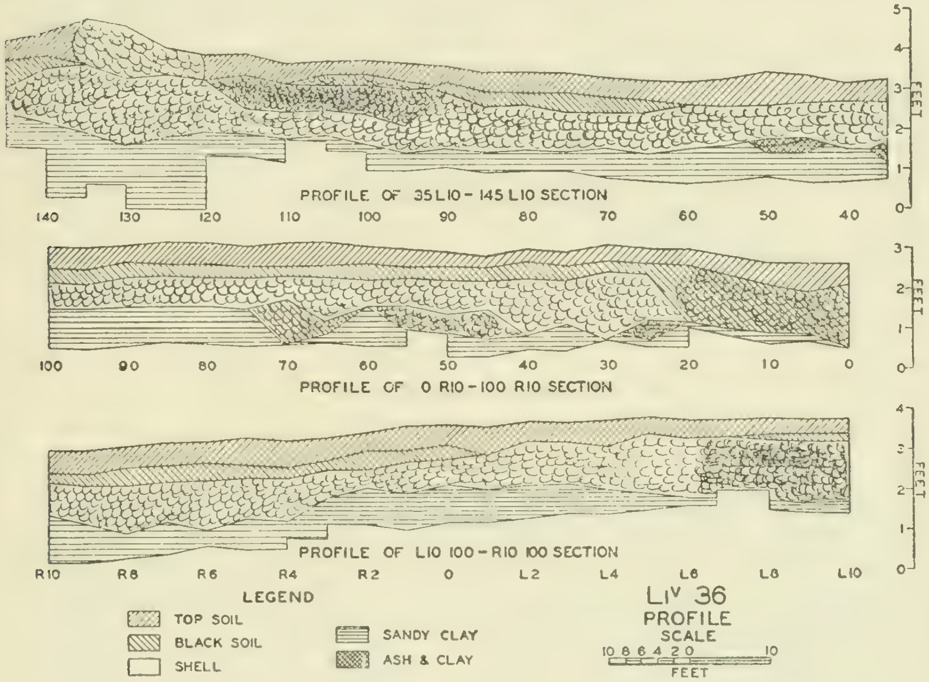

PROFILE OF 35 L10 - 145 L10 SECTION
140
130
120
110
100
90
80
70
60
50
40
0
1
2
3
4
5
FEET
PROFILE OF 0 R10 - 100 R10 SECTION
100
90
80
70
60
50
40
30
20
10
0
0
1
2
3
FEET
PROFILE OF L10 100 - R10 100 SECTION
R10
R8
R6
R4
R2
0
L2
L4
L6
L8
L10
0
1
2
3
4
FEET
LEGEND
TOP SOIL
BLACK SOIL
SHELL
SANDY CLAY
ASH & CLAY
Li^v 36
PROFILE
SCALE
10 8 6 4 2 0
10
FEET

FIGURE 17.

The fact that all of the hearths were found practically at the same level and above them were skeletons buried at all depths in the shell would indicate that while the vicinity was inhabited, this particular site was no longer used as a dwelling place. It seems plausible that after a considerable period of occupation, during which time several inches of midden were accumulated, the inhabitants removed themselves to a nearby spot, continuing, however, to use their dwelling site as a kitchen midden and as a burial ground. This would account for the midden layer above the hearths as well as the burials and the fact that no other hearths, post holes, or signs of occupancy were found.

The third phase mentioned is based upon the finding among the mortuary gifts of burial No. 5, a clay pipe, quite similar to the type presented by Holmes, figure A, plate CXXIV, and designated South

Appalachian ware. This is the only evidence of a smoking custom at this site. Coupled with this introduction of a new specimen type is the fact that the burial was extended. Burial No. 22, found in the top layer of shell, was also extended. With it were two water bottles as mortuary gifts. Admittedly, the knowledge of the inhabitants and their burial methods is slight, but compared with other findings, these two burials are distinctly unusual. The fact that they are extended makes them unique among all the other burials at this site. The pipe with the infant is another unique factor and the placing of mortuary gifts with an adult male is the only case of its kind. Further, these two water bottles were placed below the body, not to one side as was customary. The fact that both burials were extended and are different from the others in other ways would tend to link them together. It is quite possible, of course, that these two burials are intrusive and do not indicate any period of occupancy by their fellows. However, they do point to a third phase in the history of the site.

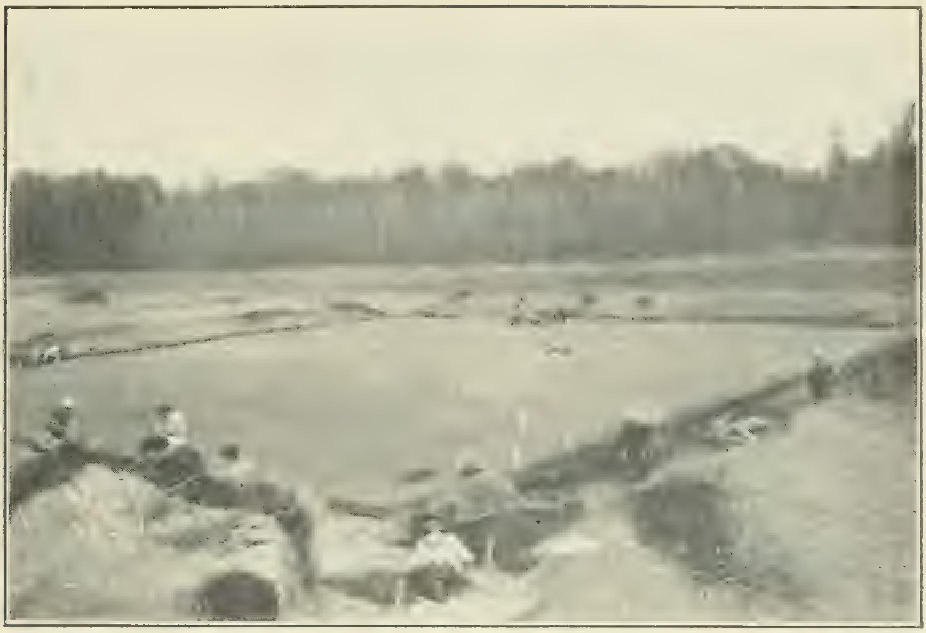
There are a few indications which may point to development of culture during the time that the mound was used as a midden and necropolis. A careful study of sherds may show that the tempering of the pottery changed slightly from the use of burned clay almost entirely to a more considerable use of shell. The banner stone and the fragmentary gorgets were found in the upper level. Mortuary gifts, too, were only found with burials in the upper levels of the site, this pottery being shell tempered.

The stratum of midden is not thick. It does not seem likely, therefore, that the mound was in use for a long period of time. It is possible that the mound had been completely deserted by its former users for some time before skeletons Nos. 5 and 22 were buried there.

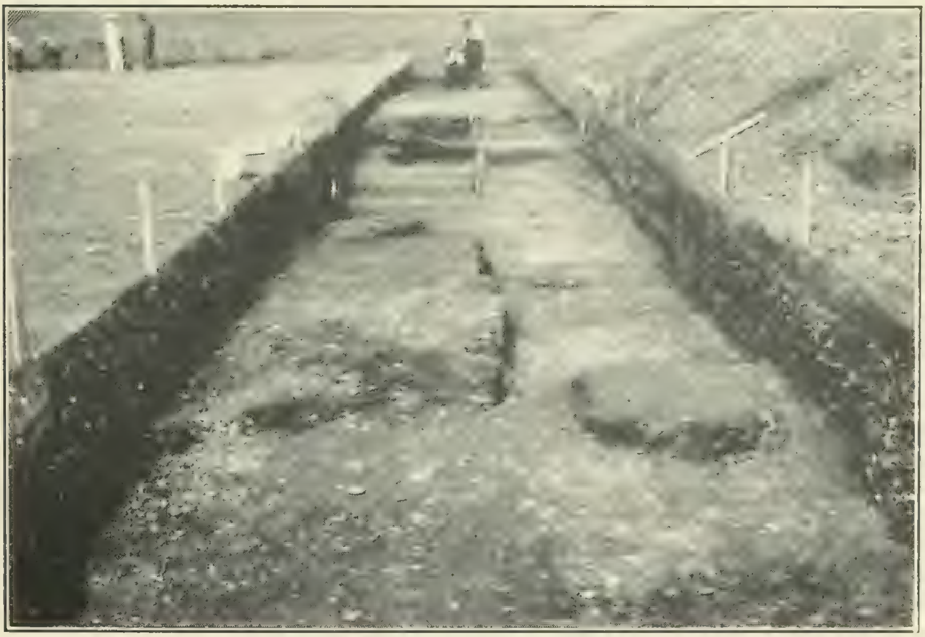
No examples of trade goods and no metal were found. Even with burial No. 5 there are no trade goods. With such a relatively elaborate burial, had trade goods been known, it seems probable something would have been placed with the body. The site was undoubtedly prehistoric.

SITE Mg^v 2

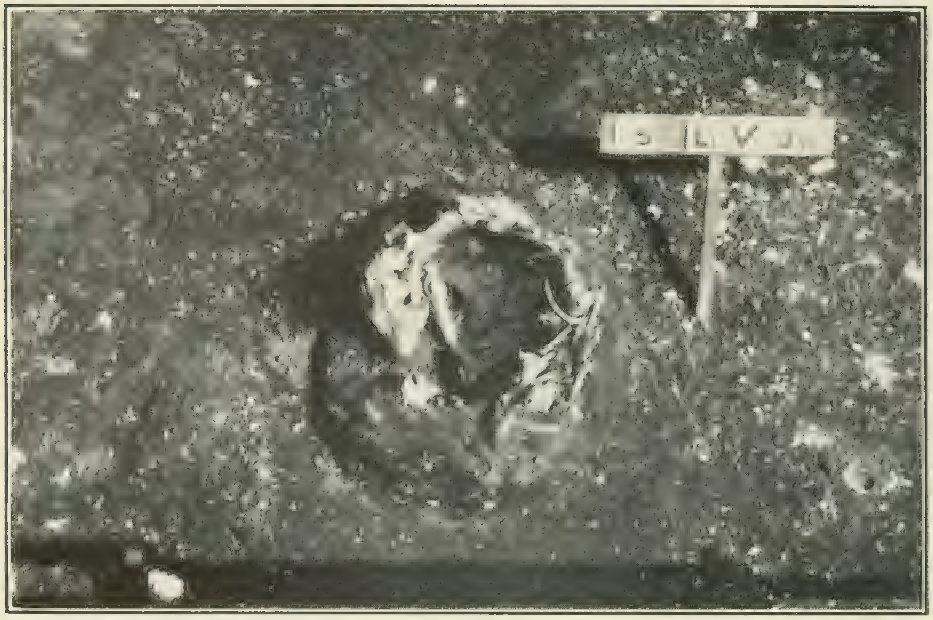
Mg^v 2 was a village site on the east bank of Flint Creek near Red Bank Bridge, 1 mile southeast of Flint Station, Morgan County, Ala., and 7 miles south of Decatur. The site was 0.75 mile east of the highway from Decatur to Hartselle. Here Flint Creek makes a V-shaped bend, to flow north to the Tennessee River. The road eastward over Red Bank Bridge cut through the center of this site. This village was about 6 miles up Flint Creek from its mouth on the Tennessee River. It was located on a bank about 10 feet higher



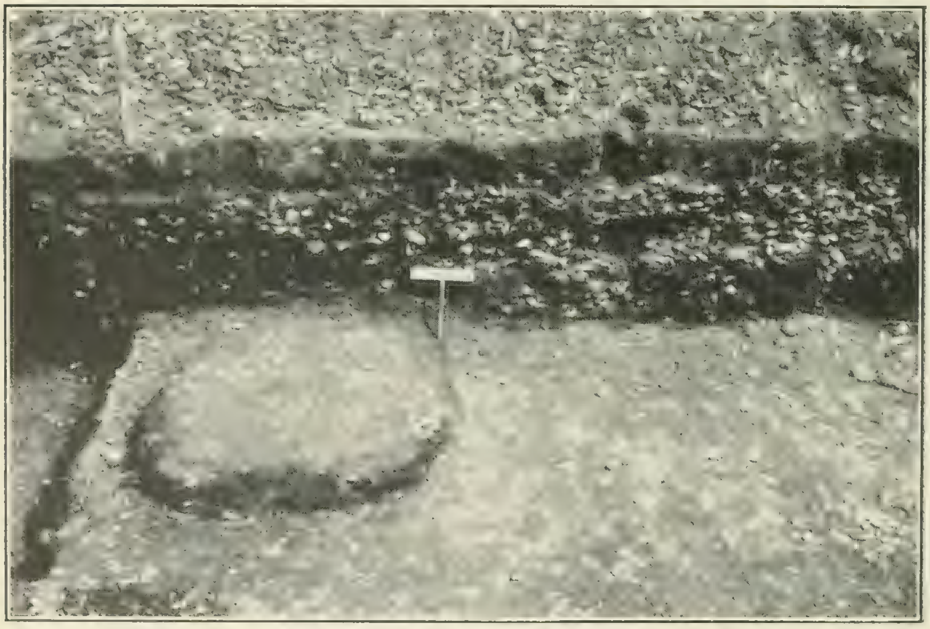
a, Central 100-foot square, Mound B, Site Li^v 36.



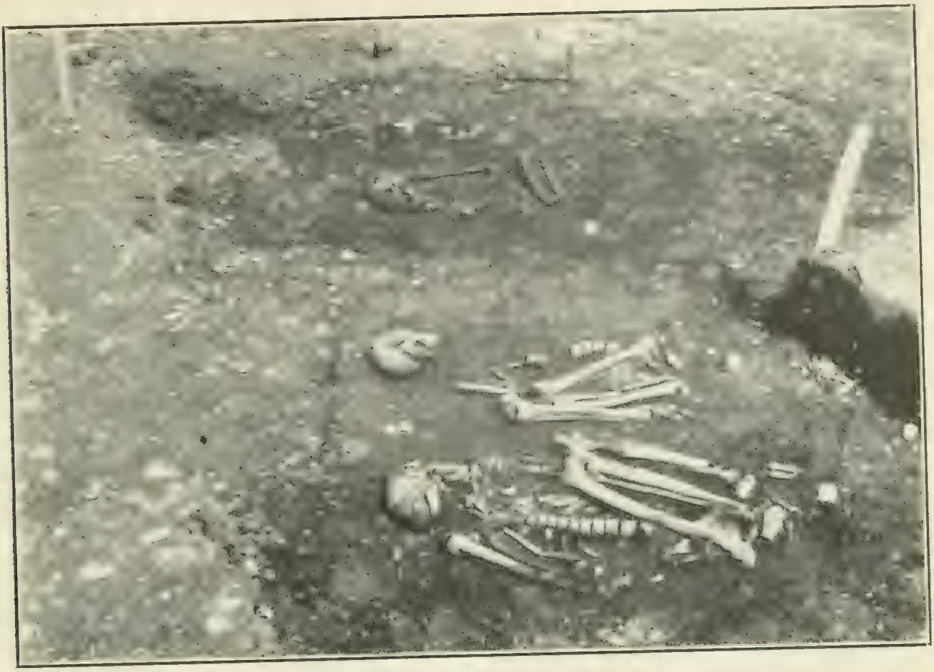
b, Trenches L9, L10 from south, Site Li^v 36.



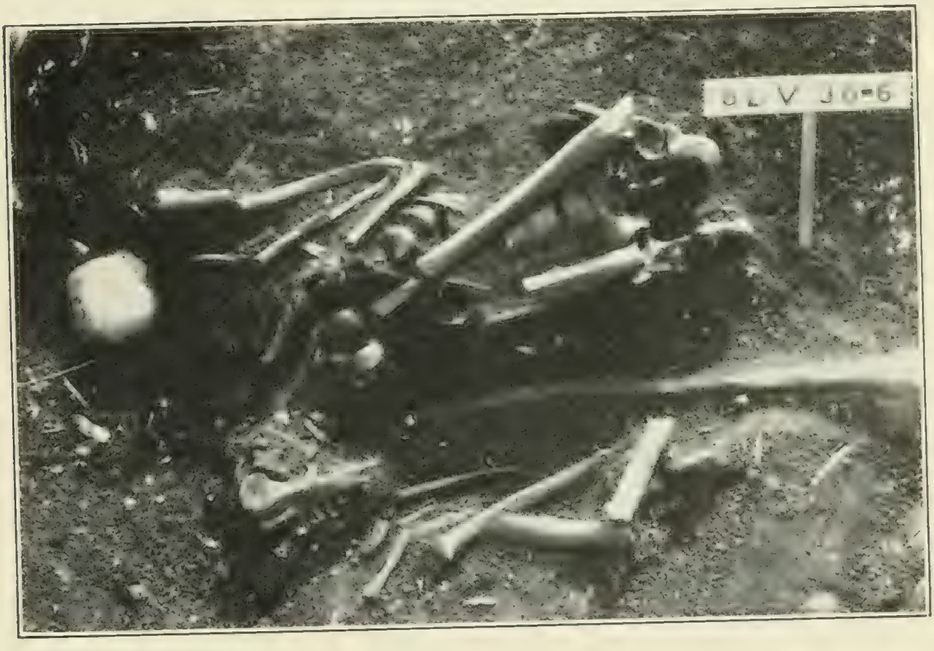
a, Dog skeleton, square 50L10, Site Li^{v} 36.



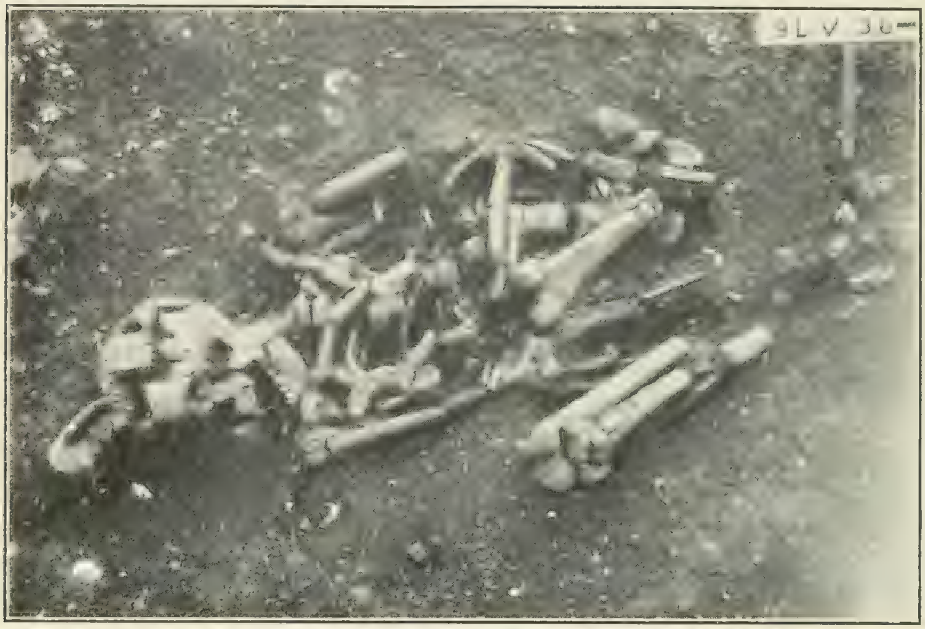
b, Fireplace, square 90L10, Site Li^{v} 36.



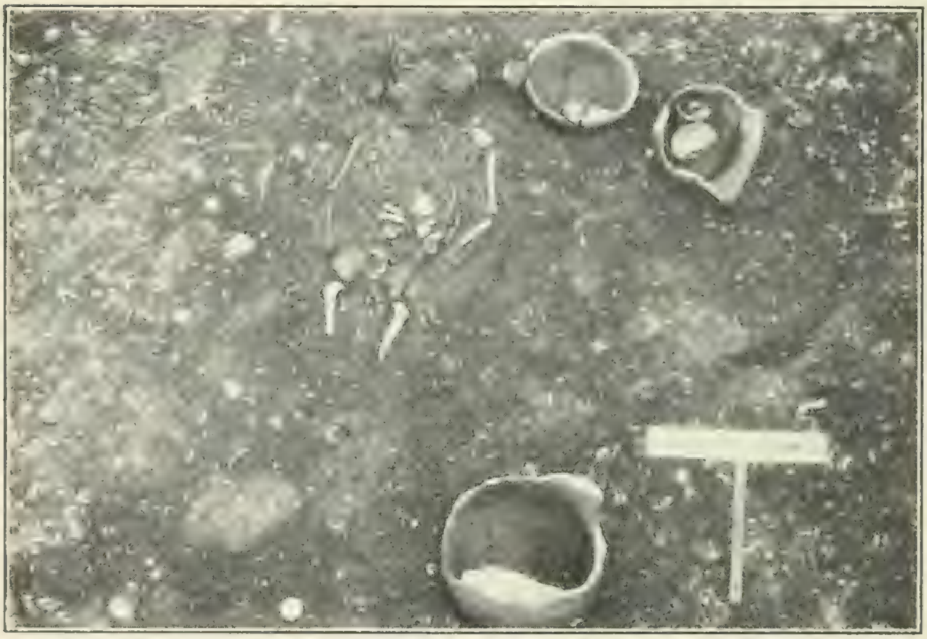
a, Burials Nos. 2, 3, 4, from southwest, Site Li^v 36.



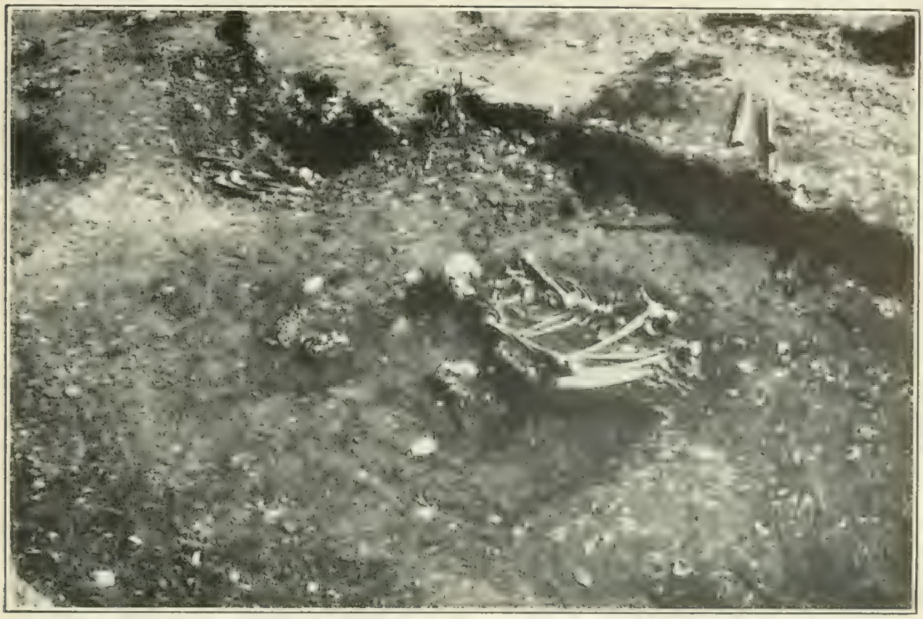
b, Burial No. 6, Site Li^v 36.



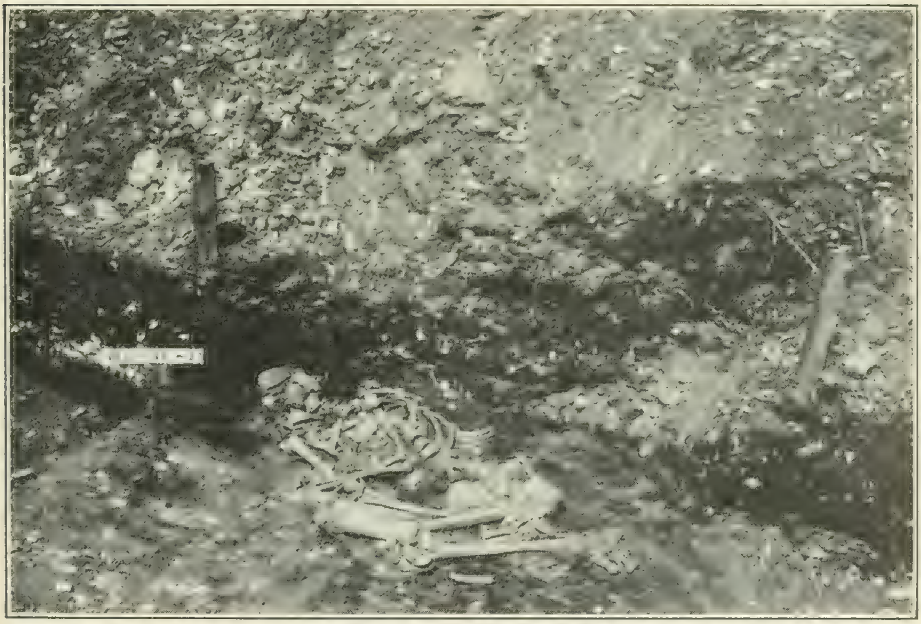
a, Burial No. 1, Site Li^{v} 36.



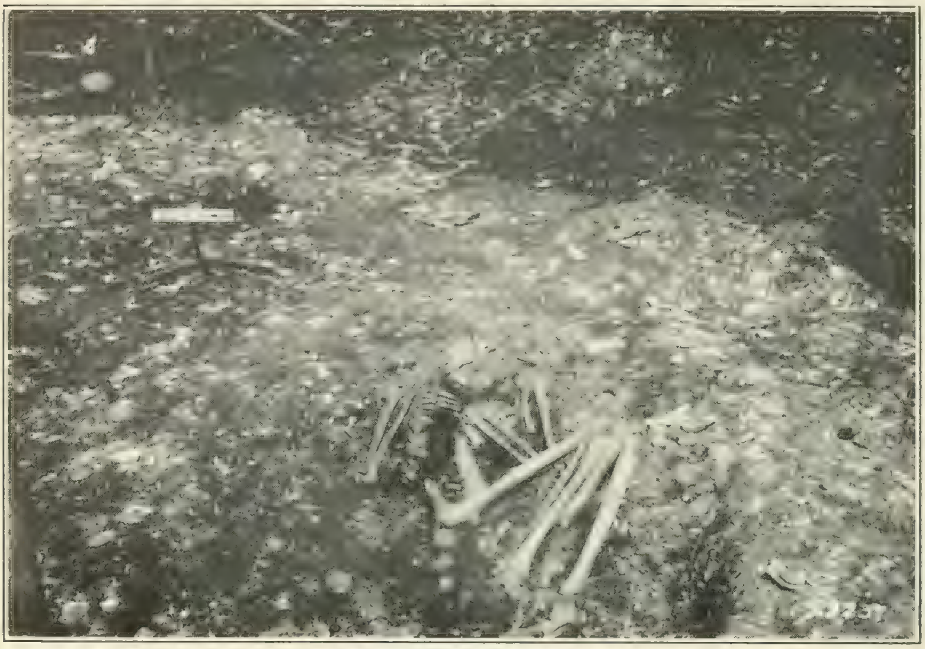
b, Burial No. 5, Site Li^{v} 36.



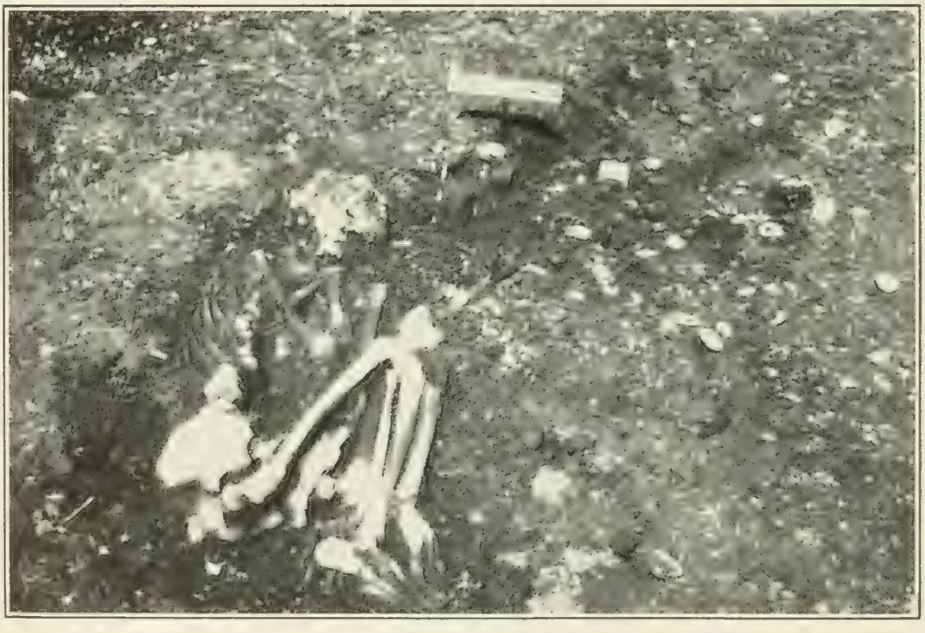
a, Burials Nos. 12, 18, and 19, Site Li^v 36.



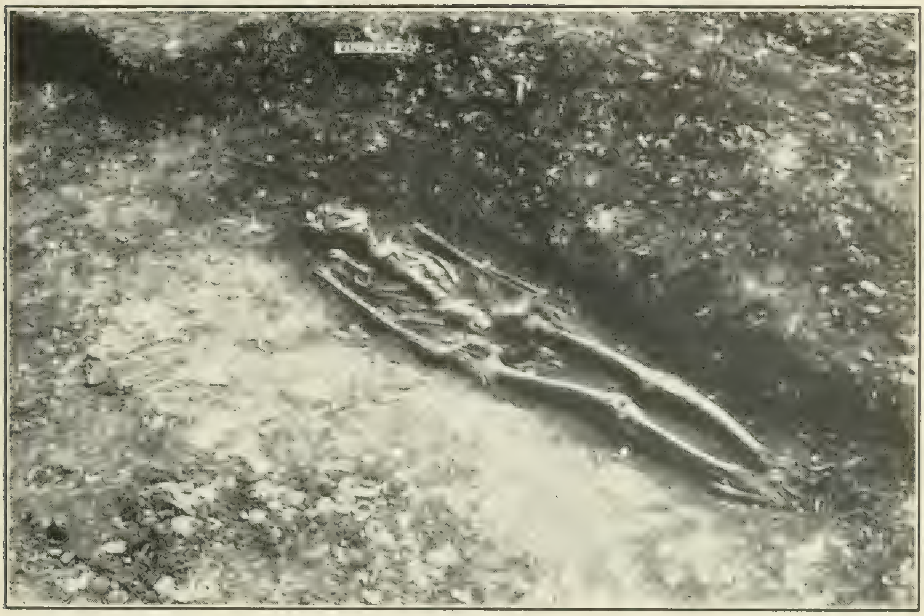
b, Burial No. 21, Site Li^v 36.



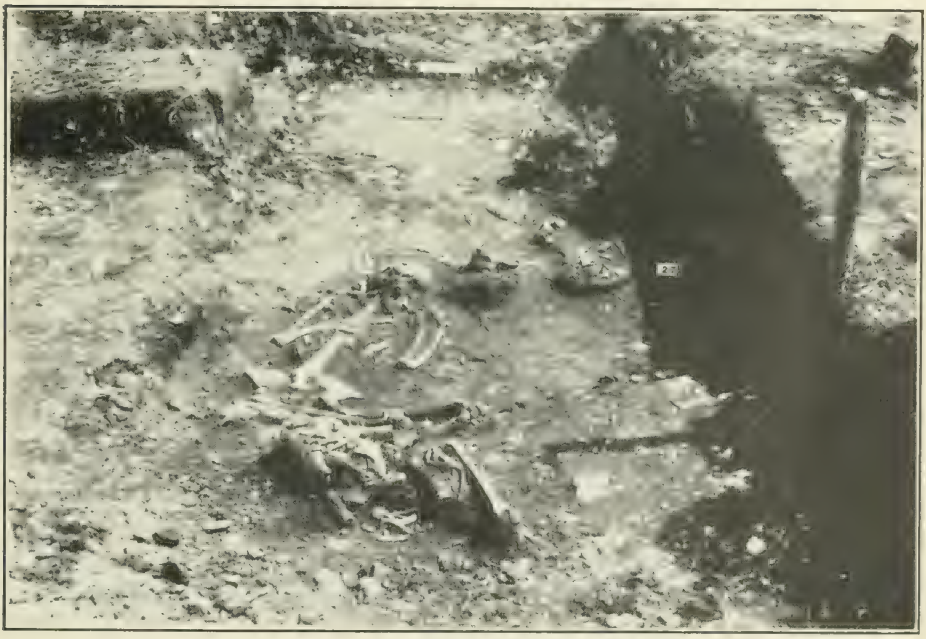
a, Burial No. 16, Site Li^v 36.



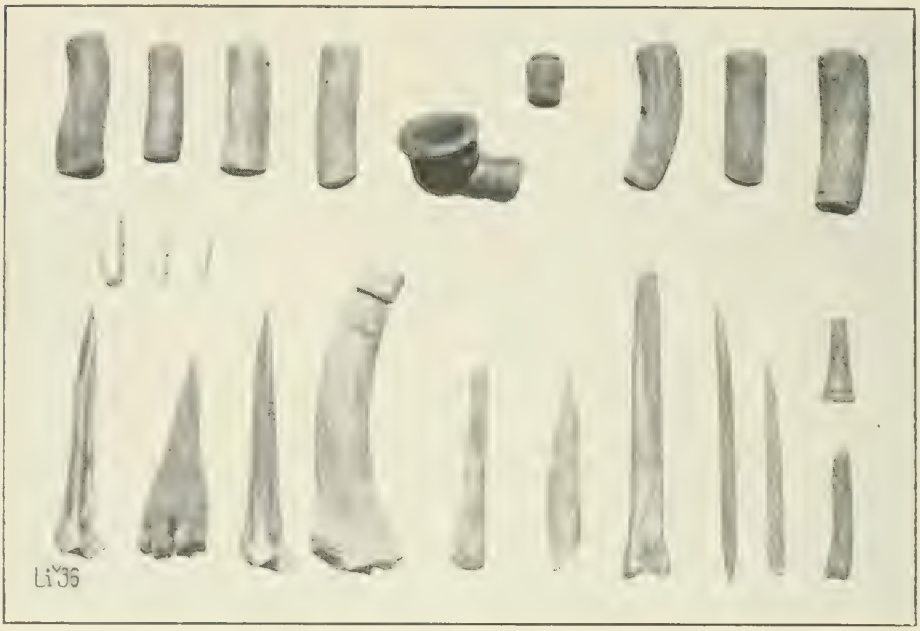
b, Burial No. 15, Site Li^v 36.



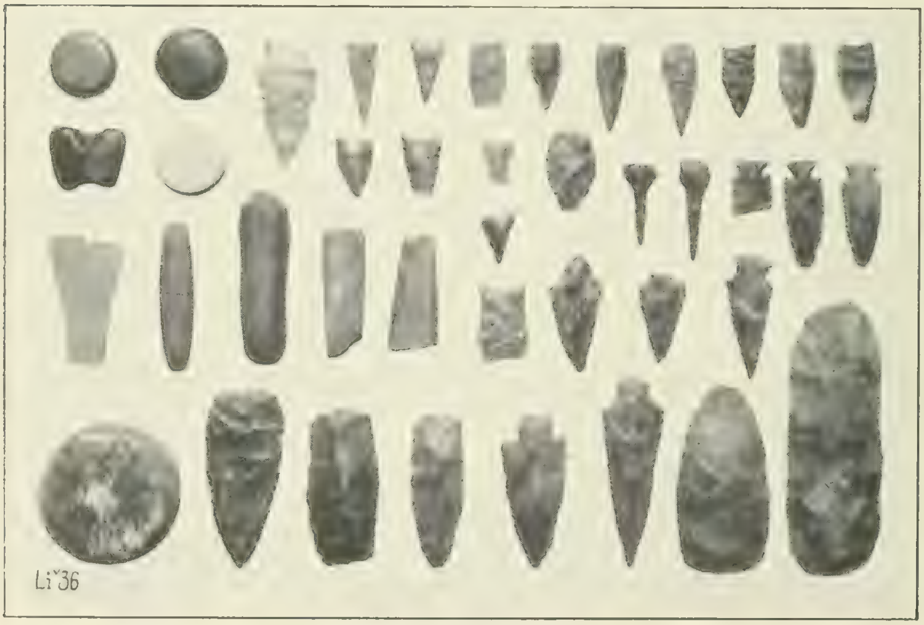
a, Burial No. 22, Site Li^v 36.



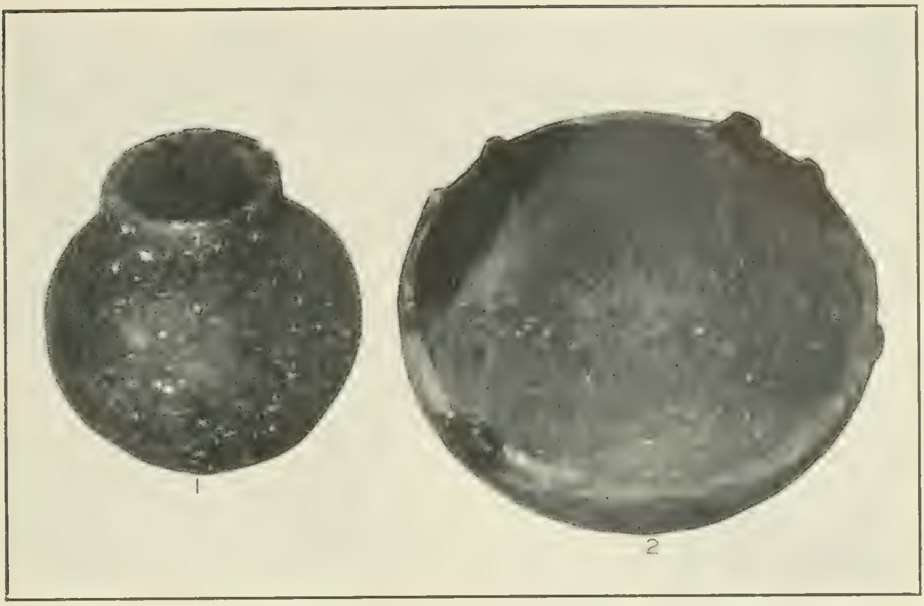
b, Burials Nos. 23, 24, 25, 26, and 27, Site Li^v 36.



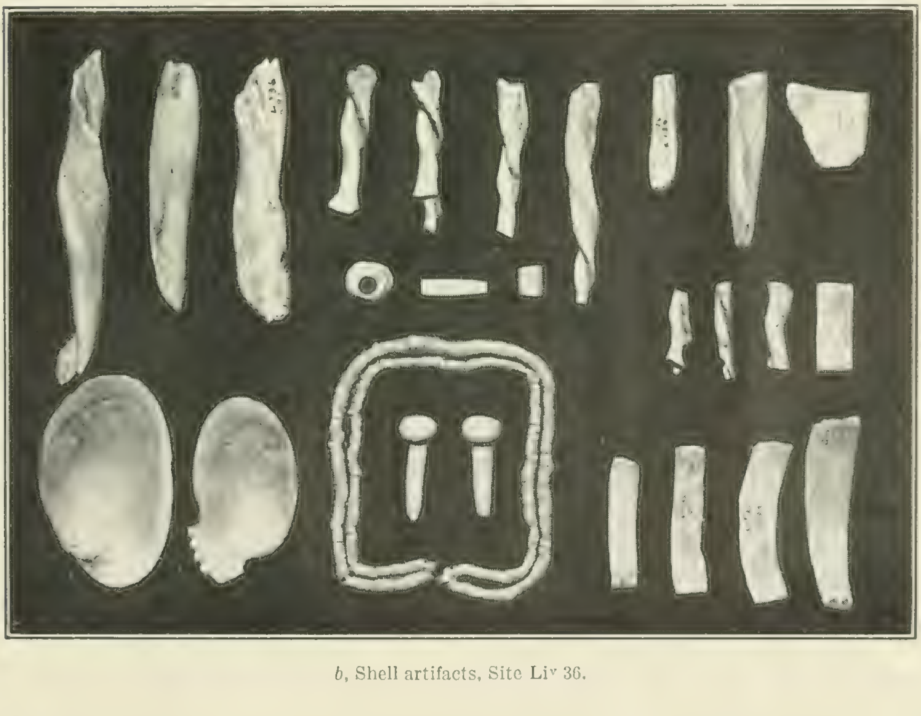
a, Bone artifacts, Site Li^{v} 36.



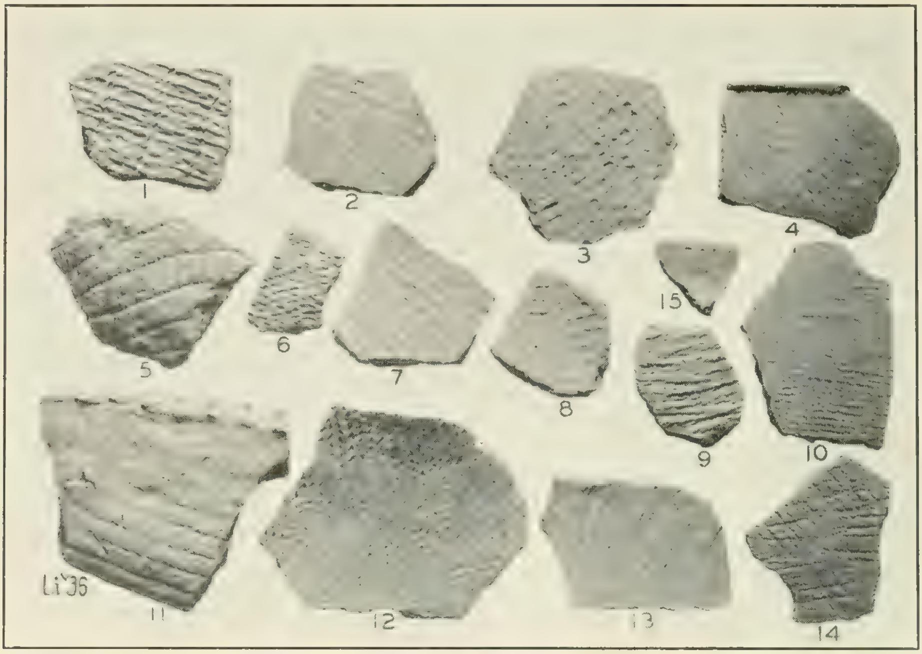
b, Stone artifacts, Site Li^{v} 36.



a, Mortuary vessels, Site Li^{v} 36.



b, Shell artifacts, Site Li^{v} 36.


1
2
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Li^{v}36
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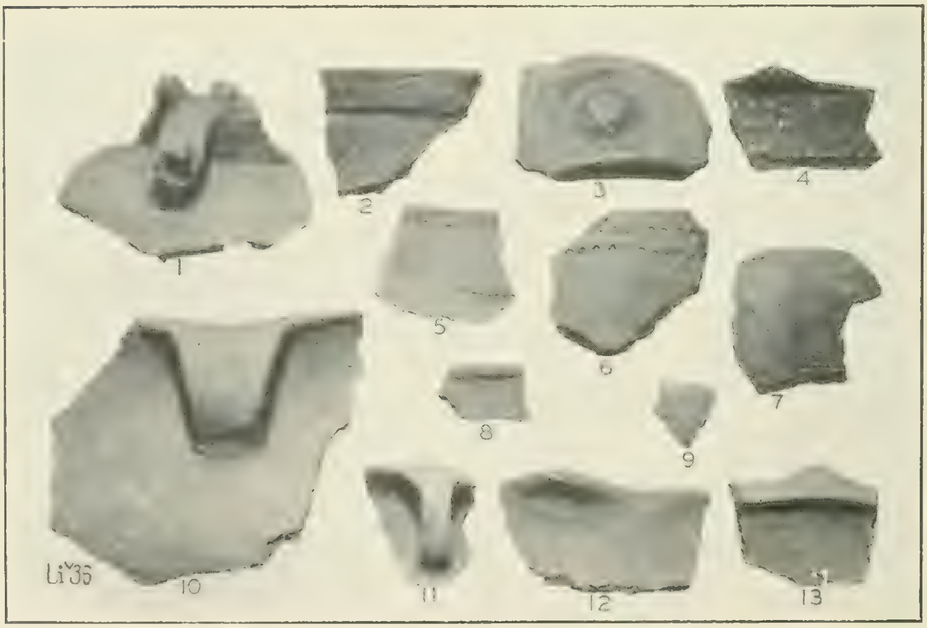
14

a, Potsherds, Site Li^{v} 36.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Li^{v}36
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11
12
13

b, Rim sherds, Site Li^{v} 36.

than the normal creek level, but in times of high water the lower portions of this bank were subject to inundation.

On this bank an accumulation of village midden rose above the flood plain. It was about 3 feet deep at the deepest point near the center, and gradually decreased in thickness to the edges. At the time of excavation the visible extent of this deposit was an elongated elliptical area approximately 1,200 feet long N.–S. and 360 feet E.–W. The soil was fertile and the land had long been in cultivation. The contemplated rise in the Tennessee River, due to the construction of Wheeler Dam, will completely inundate the site by back water from Flint Creek.

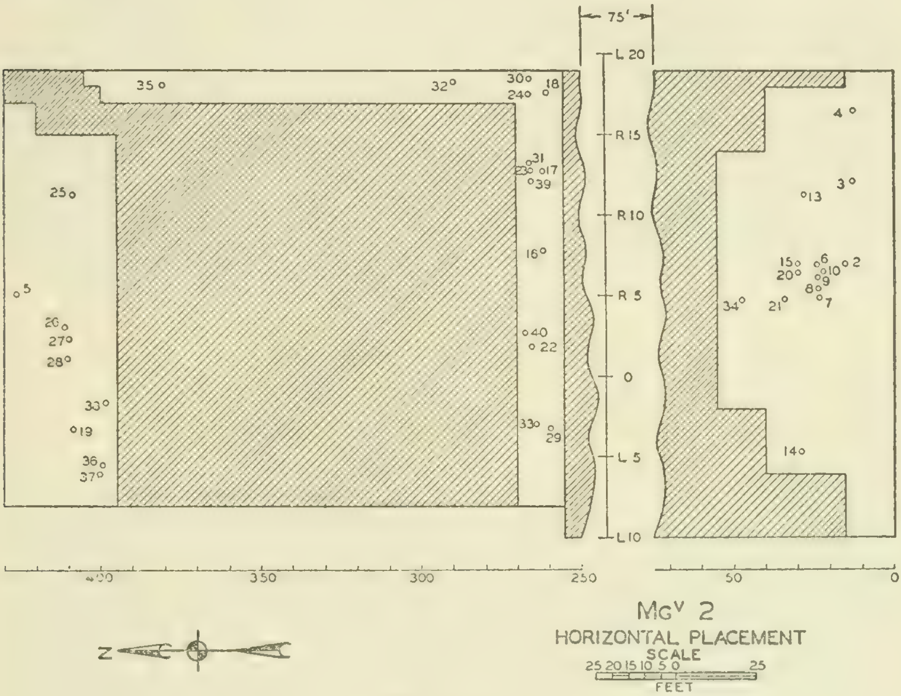


FIGURE 18.

Work was first begun on the south end of this village site early in March 1934. The site was surveyed and laid out in 5-foot squares and a number of test pits were put down to determine the boundary of the midden deposit. Due to the very sudden and phenomenal rise in the Tennessee River at that time, the site was flooded. This destroyed the stake system, washed out the test pits and trenches, and necessitated the abandonment of the work at that immediate spot. A new survey was later made and a trench system laid off in 5-foot blocks, some 430 feet north of the first excavation. It was expected that work would be resumed in the abandoned trenches as soon as the flood situation permitted. For this reason the northern system was laid out so as to tie in with the southern system; to become, in fact, a noncontiguous part of the southern system. The plan of staked system is shown in figure 18. The area excavated is indicated and the location of skeletons shown by number. Of the 2,406 5-foot squares within the limits of the survey only 557 were finally excavated, due to delay caused by high water, and finally to the closing of excavation due to discontinuance of labor supply.

In the south trench the site was excavated to a depth of 4 feet; in the north trench to a depth of 3 feet; in the central trench to a depth of 2.5 feet; and in the east trench to a depth of 1.5 feet. In each trench excavation extended down to undisturbed earth below the midden deposit. Long-continued cultivation of this soil had resulted in deep disturbance of all material in reach of the plow.

This site, as shown by the investigation, was a village site where midden material had accumulated, and the surface of which had from time to time received addition of silt due to overflow or back water from the Tennessee River. There seemed to be no evidence of any sequence of cultural layers in the site. No stratification of any kind was observable. Animal bones and some shell occurred in small quantities in every square excavated. Projectile points of many different forms were found, but potsherds were not numerous.

BURIALS

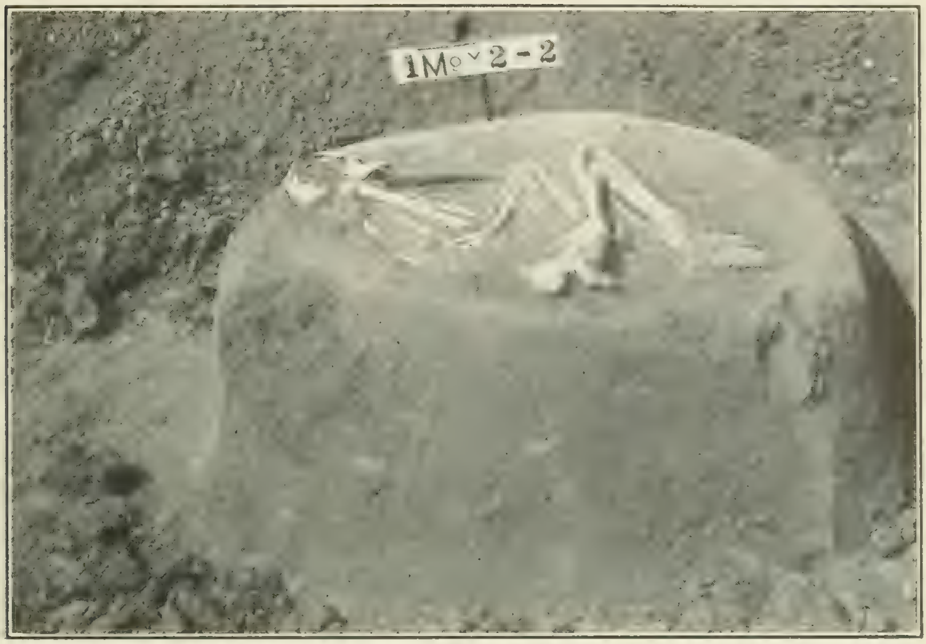
The chief interest attaches to the burials which are found, to the number of 37 (pls. 80, *b*; 81, *a*). Many were in the last stages of decay, a condition attributed to the high water table at the site and the lack of sufficient drainage. Of the 37 burials reported, 29 were flexed on the right or left side; 4 were placed on the back with legs drawn up over the body; 2 were infants buried in extended position; and 2 were of undetermined placement because of decay and disturbance. No artifacts accompanied these burials. Only those burials have been listed of which photographs are presented, as they are regarded as typical.

Burial No. 2.—This burial was an adult flexed on the left side, found at a depth of 18 inches in square 10R7. The plow had damaged the right side of the skull, as shown in plate 80, *a*. The skeleton was left on a pedestal to await photography, while excavation was continued beyond it.

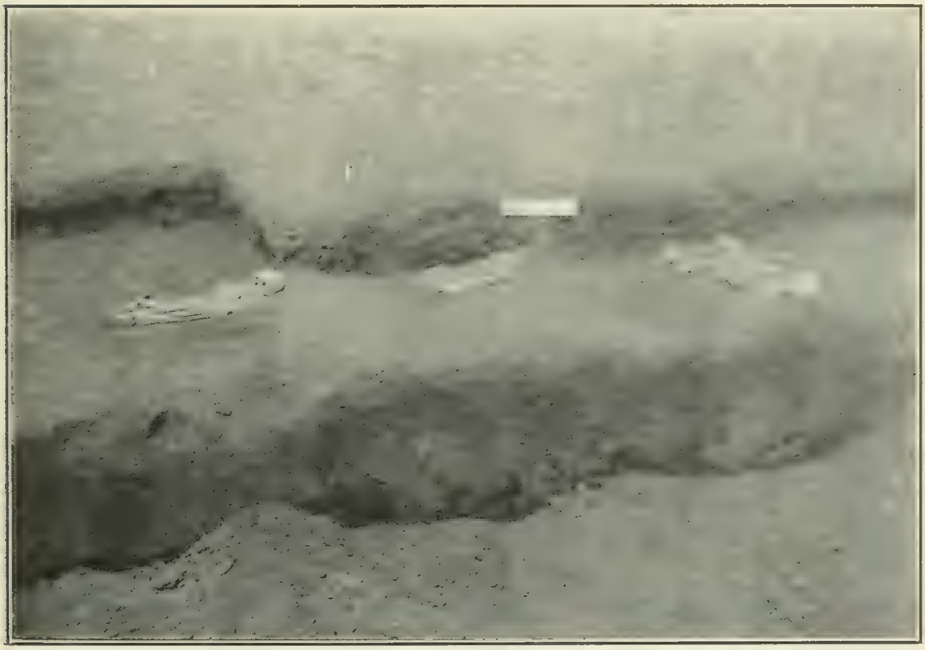
Burial No. 7.—This was an adult flexed on the left side, found at a depth of 12 inches. The bones were in good condition, as shown in plate 82, *b*.

Burial No. 8.—At a depth of 10 inches in square 25R5 was found an adult flexed on the right side. It had been damaged by the plow. The left side of the skull had been cut away and the feet were missing (pl. 81, *b*).

Burial No. 9.—Curled on the left side with knees drawn up to the chin was found an adult at a depth of only 6 inches in square

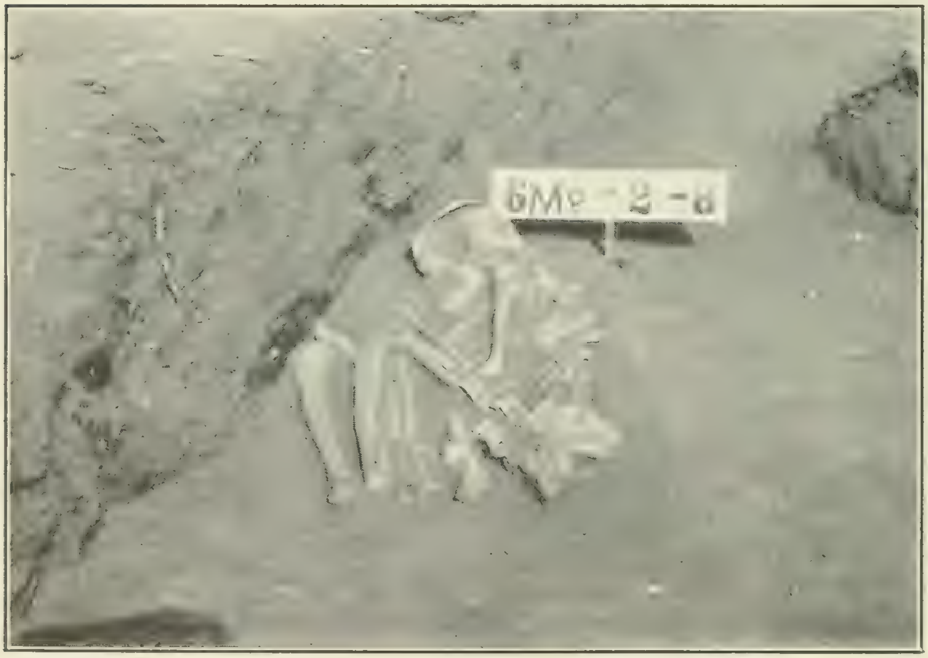


a, Burial No. 2, Site Mg^{v} 2.

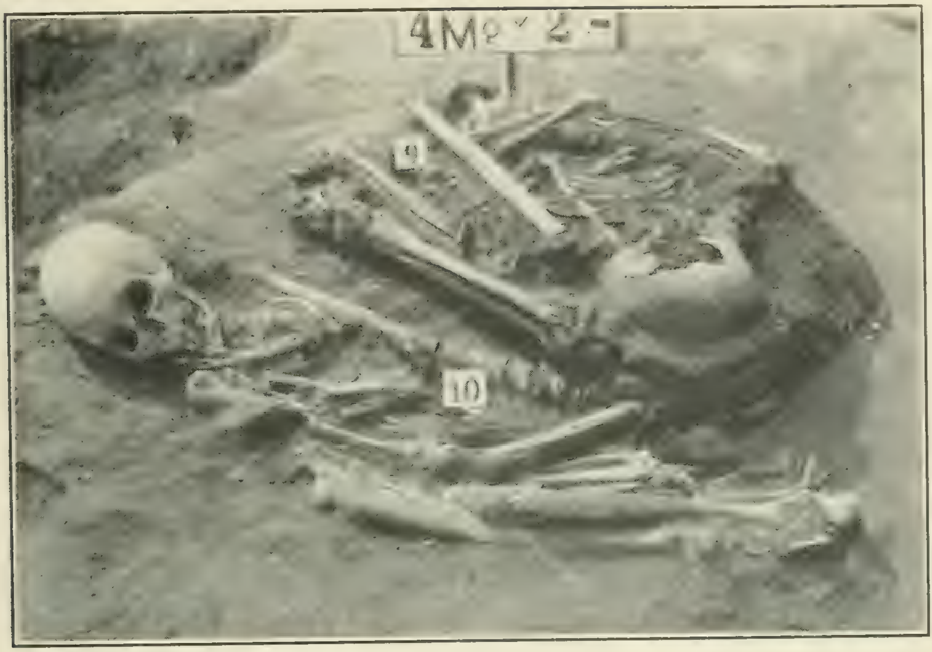


b, Group of burials, Site Mg^{v} 2.

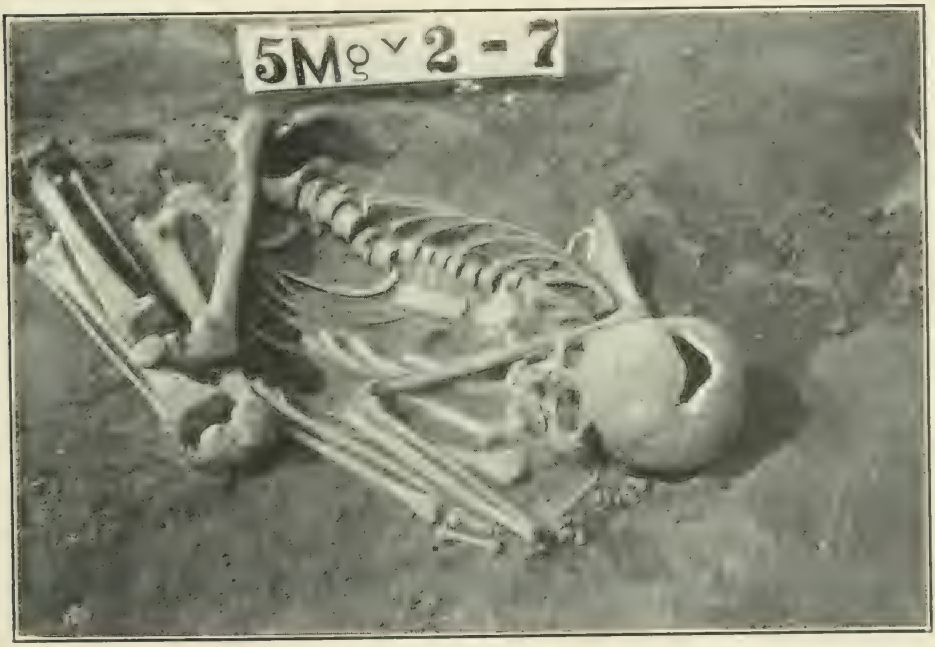
a, Site staked off—burials in foreground, Site Mg^{v} 2.



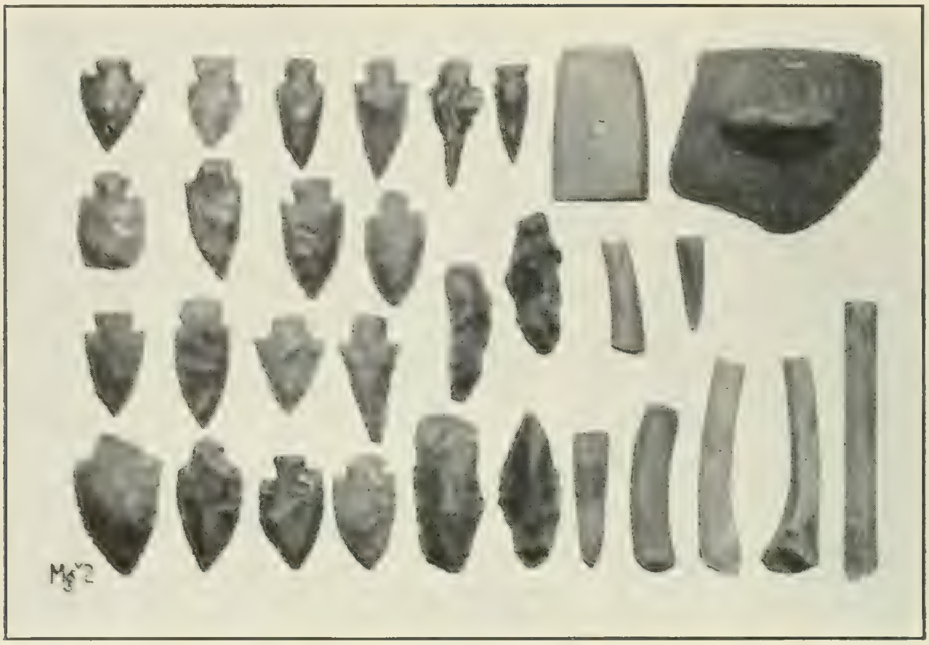
b, Burial No. 8, Site Mg^{v} 2.



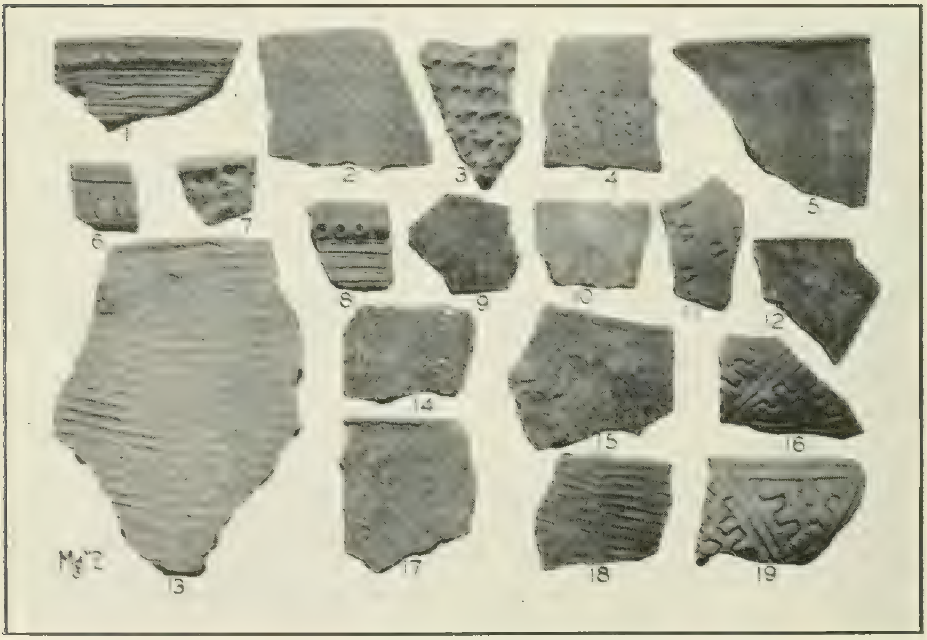
a, Burials Nos. 9 and 10, Site Mg^{v} 2.



b, Burial No. 7, Site Mg^{v} 2.



a, Stone artifacts, Site Mg^{v} 2.


1
2
3
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16
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18
19
Mg$^{v}_{3}$2

b, Potsherds from Site Mg^{v} 2.

a, Distant view of Site Ma° 2.

b, Close-up of Site Ma° 2.

25R6. The skull was broken and part of the skeleton was missing. It was in close association with burial No. 10, as shown in plate 82, *a*.

Burial No. 10.—This was an adult flexed on the right side. This burial was also very shallow, being only 7 inches below the surface. This burial was located in square 25R6. While the skull had escaped injury and most of the other bones were present, they were in disorder.

ARTIFACTS

Since the burials at this site were destitute of artifacts, the only material found came from the general digging. Several very crude limestone hoes were found, and many broken fragments showing considerable use. One greenstone hoe, nearly 12 inches long and 5 inches wide, was highly polished. A number of pestles and broken lapstones were scattered in the midden deposit. Hammerstones and flint spalls and rejects were plentiful. Most of these fragments show a conchoidal fracture and suggest that the flint or chert used here came mostly from concretions. Plate 83, *a*, shows a variety of projectile points from the general digging. All of the well-made points had well-defined stems and notches. The triangular points were conspicuously absent from this site. Unnotched worked pieces were definitely knives or scrapers, and were often quite crude, showing little secondary chipping. Plate 83, *a*, shows a broken two-holed slate gorget, and the end, rim sherd, and lug of an open steatite bowl of elliptical form.

Many small bones of animals, circular in cross section, were cut squarely off, and reamed out internally. The purpose of these bone tools is uncertain, but they would have made the intaglio impression on pottery as shown on central sherd, top row of plate 83, *b*. For that reason these bone tools may have been made for pottery markers.

POTTERY

As stated above, sherds were not numerous on this site. Sample sherds taken at random through the midden are shown in plate 83, *b*. Cord-wrapped paddle impressions, incised ware, stamped and punctate decorations are shown. One sherd shows a decoration produced by comb trailing.

HOBBS ISLAND SITES

The work of the survey conducted in Madison County, Ala., consisted of an examination of the sites on the southern end of Hobbs Island. This island was separated from the north bank of the Tennessee River by a narrow slough. The lower end of the island was located upstream from Whitesburg Bridge. It was owned by Messrs. R. E. Spragins and J. D. Atkinson. It was a cigar-shaped island about 2.5 miles long and 0.5 mile wide at the widest point and it lay in a NW.–SE. direction. There was very little relief, although the upper end had a general elevation, a little higher than the downstream portion. It was a typical flood plain with the river side a few feet higher than the slough side. The greatest elevation was the earth mound Ma° 2 at the upper southern end of the island. This mound rose some 20 feet above the general level, as shown by plate 84, *a*, which presents a distant view, and plate 84, *b*, which is a close-up of the mound. A detailed topographic map of the southern end of this island is shown in figure 19. The location of four other sites, Ma° 1 and Ma° 3, earth mounds; Ma° 4, a shell mound; and Ma° 5, a village site; as well as the large earth mound Ma° 2 are shown. Each will be described in order.

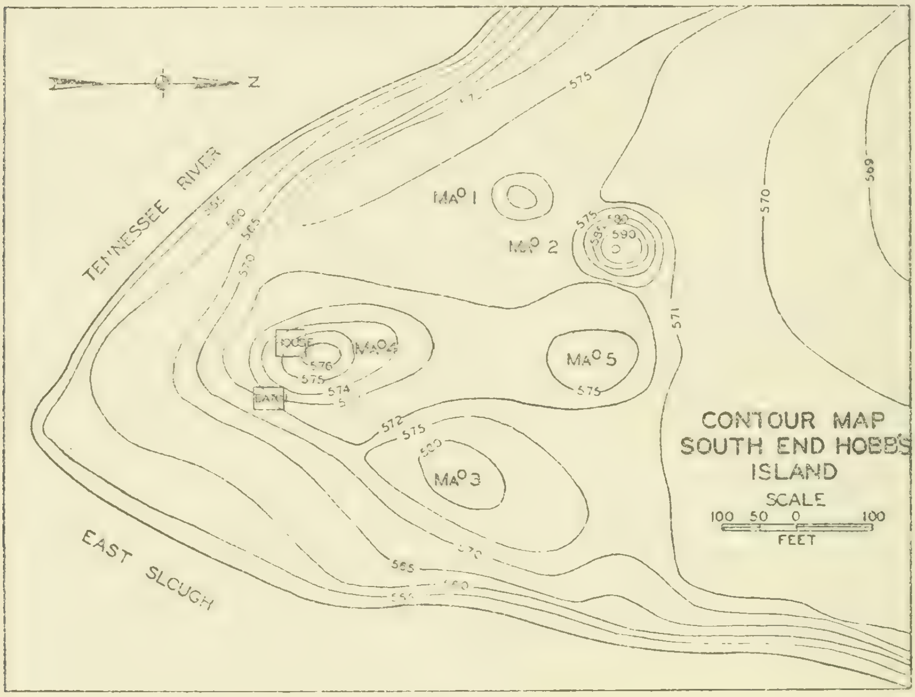

Z
TENNESSEE RIVER
EAST SLOUGH
MA° 1
MA° 2
MA° 3
MA° 4
MA° 5
HOUSE
BARN
575
570
569
571
565
560
590
576
574
572
CONTOUR MAP
SOUTH END HOBBS
ISLAND
SCALE
100 50 0 100
FEET

Figure 19.

The soil of the island was a clay silt indicative of river deposit. It was brownish-black in color and in many places mussel shells and univalves were exposed on the surface. In some places the shells were profuse. The entire area had long been in cultivation. This island was known in early historic times as Chickasaw Island and has thus an interesting record of historic occupancy to be discussed later.

SITE Ma° 1

This was an approximately circular mound about 80 feet in diameter and about 3 feet higher at the center than the surrounding field.

In December 1932 it was investigated by the Alabama Museum of Natural History. Forty-nine skeletons were removed, which were reported as: 8 infants, 8 young children, and 33 adults. The form of burial used was quite variable. There were 13 fully extended, 5 partially flexed, and 16 fully flexed burials. Five were indeterminate, due to decay, and nine were reported as uncertain as to placement because of post-burial disturbance due to the intrusion of later burials. Plates 85, *b*, and 86, *b*, of skeletons Nos. 34 and 41, respectively, show typical placement of mortuary offerings about the head of a partially flexed burial (No. 34) and a fully extended burial (No. 41). Plate 86, *a*, is a close-up of the pelvic cavity of skeleton No. 41, revealing skeleton No. 42 of a prenatal infant. In this burial mound most burials were in association with artifacts. Thirty-one nearly perfect pottery vessels were recovered which might be classified as to form as follows: 8 open shallow vessels, 15 true pots, and 8 water bottles.

Open vessels, as shown in plate 87, *a*, are very light ware, made of yellow clay, shell tempered, and are from 6.75 inches to 7.25 inches in diameter and about 2.5 inches deep. Open bowls were sometimes decorated with rows of small lugs below the rim. Zoomorphic forms are represented in the crudely constructed duck bowl shown in plate 88, *b*. In plates 88, *a;* 89, *a;* 90, *a;* and 90, *b*, are shown true pots, typical mortuary offerings. They are plain, incised, punctate, knobbed, and combinations of all these. There is a common character in the rather ornate angular handle, which is itself often knobbed and usually rises above the pot rim. These pots usually have two handles, but may have four. They vary from 5 inches to 8 inches in diameter and are from 4 inches to 5 inches deep. Plate 89, *b*, shows a number of small pots from 3.5 inches to 4 inches in diameter, probably because of their small size made expressly for mortuary offerings.

The water bottles from this site range in form from spherical bowls 7.5 inches in diameter with short neck 1.75 inches long and large mouth 2.75 inches in diameter, total height 7 inches; to flattened bowl with mouth 2.25 inches, neck 3.75 inches long, and total height 8 inches, as shown for comparison in plate 92, *b*. This last bottle is crudely and broadly striped by painting black on red. Plate 91, *b*, shows a variant form of bottle with special flat base. In general, the bottles from this site, all shell tempered, were rather crudely made with coarse texture. Plate 91, *a*, shows two of these simple and crude bottles which were so poorly burned, or because of long burial, have sustained considerable surface damage. This surface disintegration extends to the interior of the vessels, so far as observable, seemingly to the same extent as on the outer surface. Not only is the tempering material relatively coarse in these vessels, but the shell constitutes a very considerable portion of the total bulk within the matrix.

STONE ARTIFACTS

Plate 93, *a*, shows characteristic greenstone celts and a variety of discoidals from this site. These celts of greenstone are exceedingly well made, very thin, with sharp edges and high polish. The longest shown in the photograph is 7.75 inches long, 2.5 inches wide at the blade, and less than 0.5 inch thick at the thickest point. The small discoidals are made of greenstone, limestone, and sandstone, varying in diameter from 1 inch to 1.5 inches. The large discoidal is made of a metamorphic marble-like conglomerate and is 4 inches in diameter and 2 inches thick. It is highly polished and brilliantly colored in red or brown. In plate 93, *b*, the pipe shown in the center of the lower row was found at the feet of skeleton No. 5.

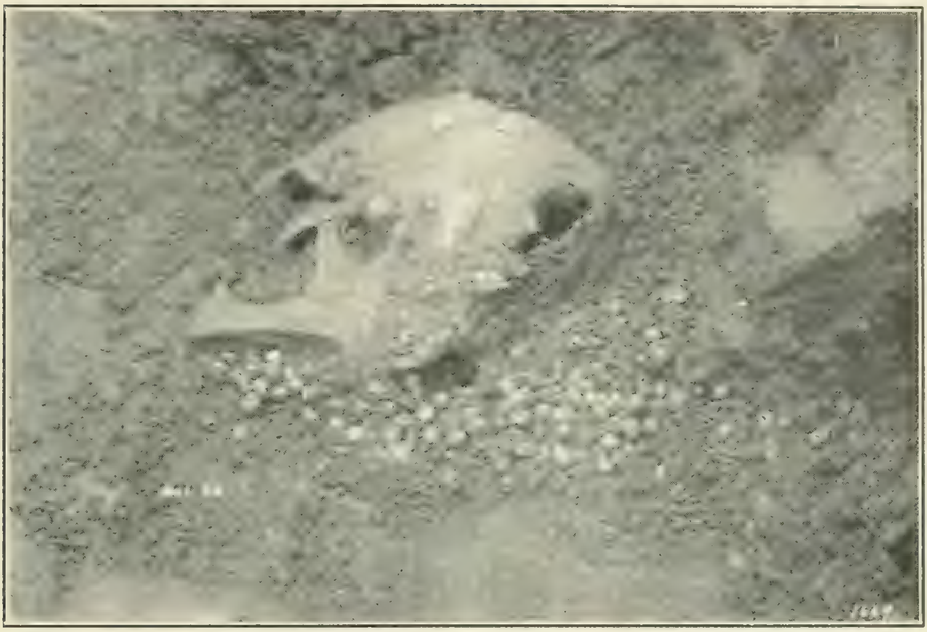
SHELL ARTIFACTS

Besides pottery and stone mortuary offerings, shell material from this site constituted an important contribution. Beads of several forms were found in large numbers. Plate 85, *a*, shows the head of a skeleton partially uncovered, revealing a cache of nearly spherical shell beads. From this cache 1,091 beads were taken. One thousand and eleven of these beads, shown in plate 94, *b*, were strung, making a string 26 feet long. This same skeleton had a cache of shell beads at the ankles shown at the right in plate 94, *a*, and another cache at the wrists shown at the left in the same figure.

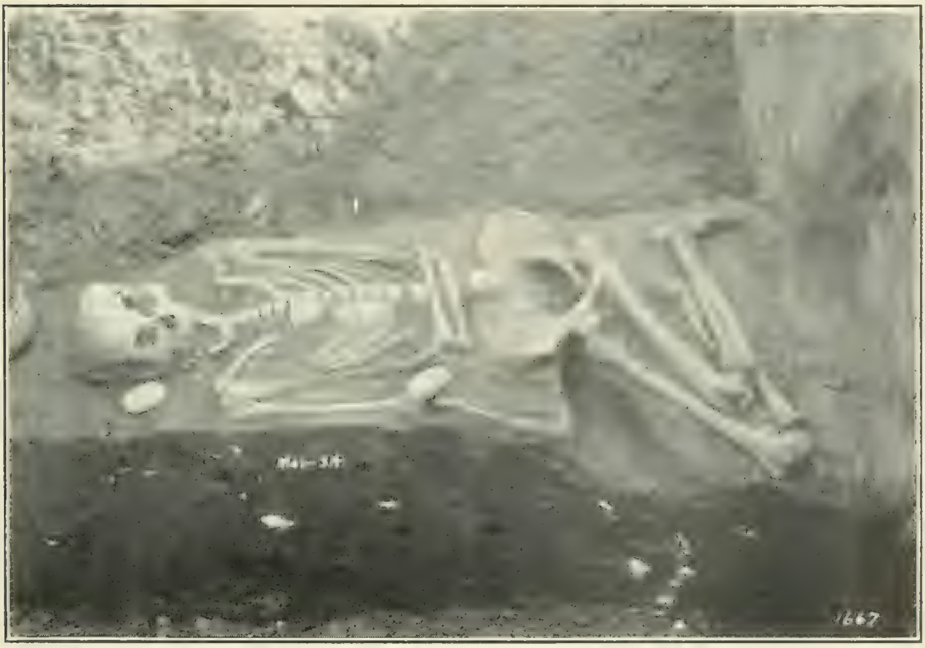
Skeleton No. 1, an adult male, had on his breast an engraved shell gorget with well-executed cross. This is shown in plate 95. Skeleton No. 25, a flexed adult, had under the chin the excised gorget shown on the left in plate 95. This gorget portrays the cross-horizontal bar displaced (lowered) nonsymmetrically, to make room for the turkeys facing each other. In this same picture is shown a string of beads, the remains of more than 2,000 (many badly disintegrated) which were found about and in front of the skull of skeleton No. 14.

SITE Ma° 2

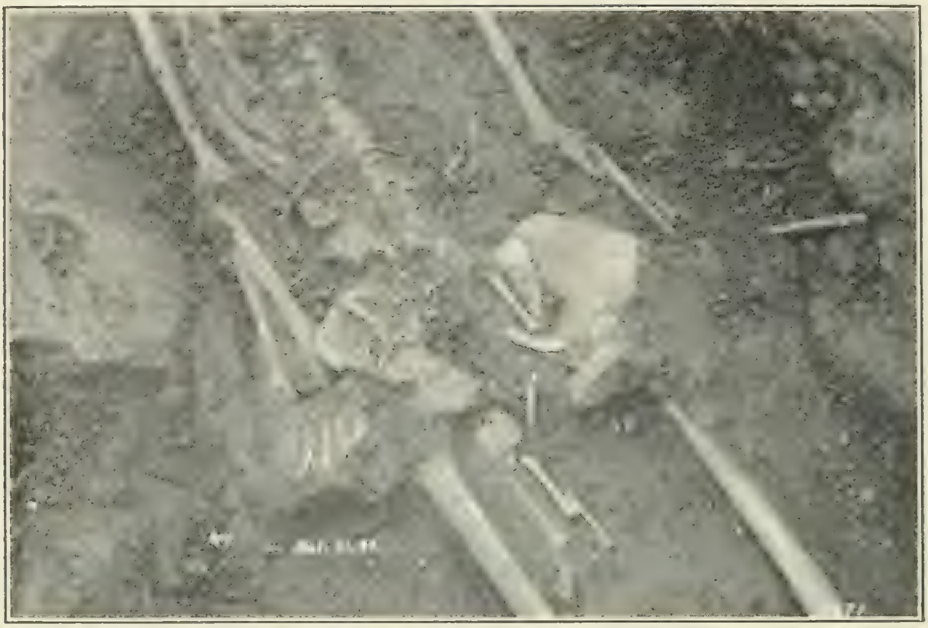
This was a pyramidal mound rising 20 feet above the plain. It had been previously tested in November 1932 by the University of Alabama Survey party and at the time of this investigation it showed no surface indications of having been used as a habitation site.



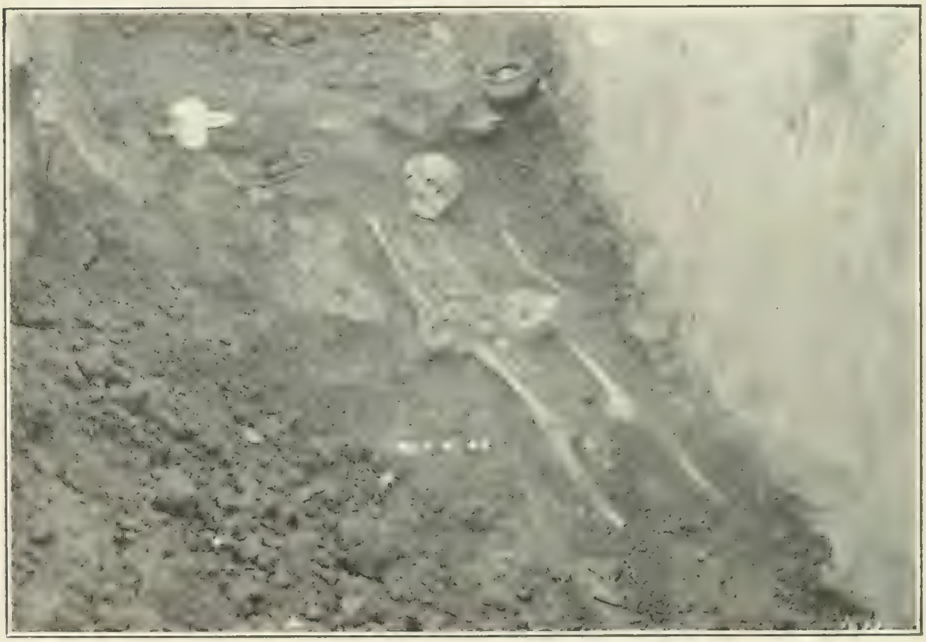
a, Skull of Burial No. 28, with cache of beads, Site Ma° 1.



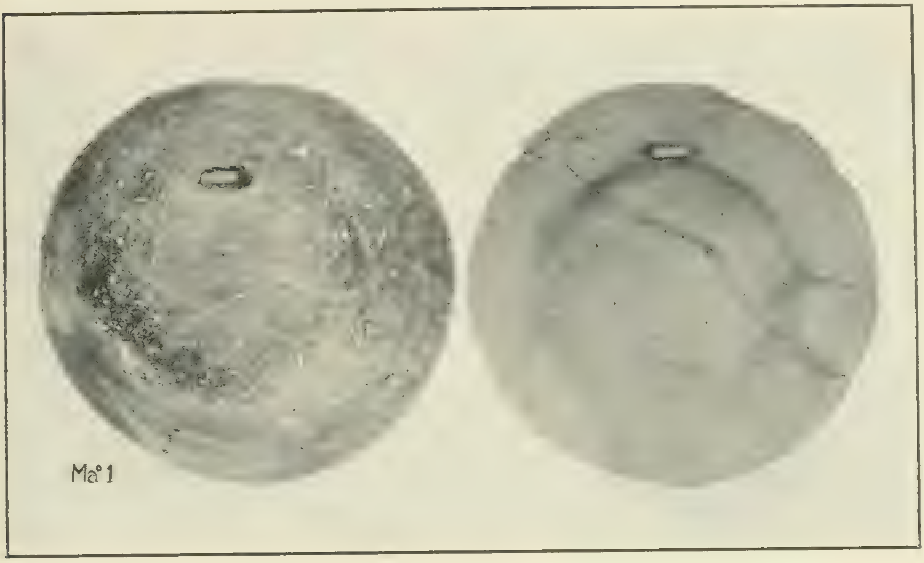
b, Burial No. 34, Site Ma° 1.



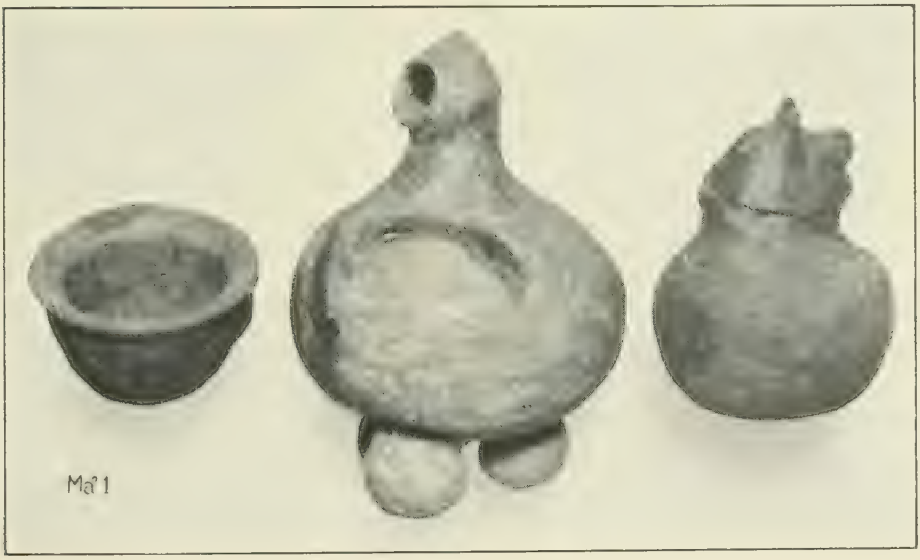
a, Pelvic cavity, Burial No. 41, Site Ma° 1.



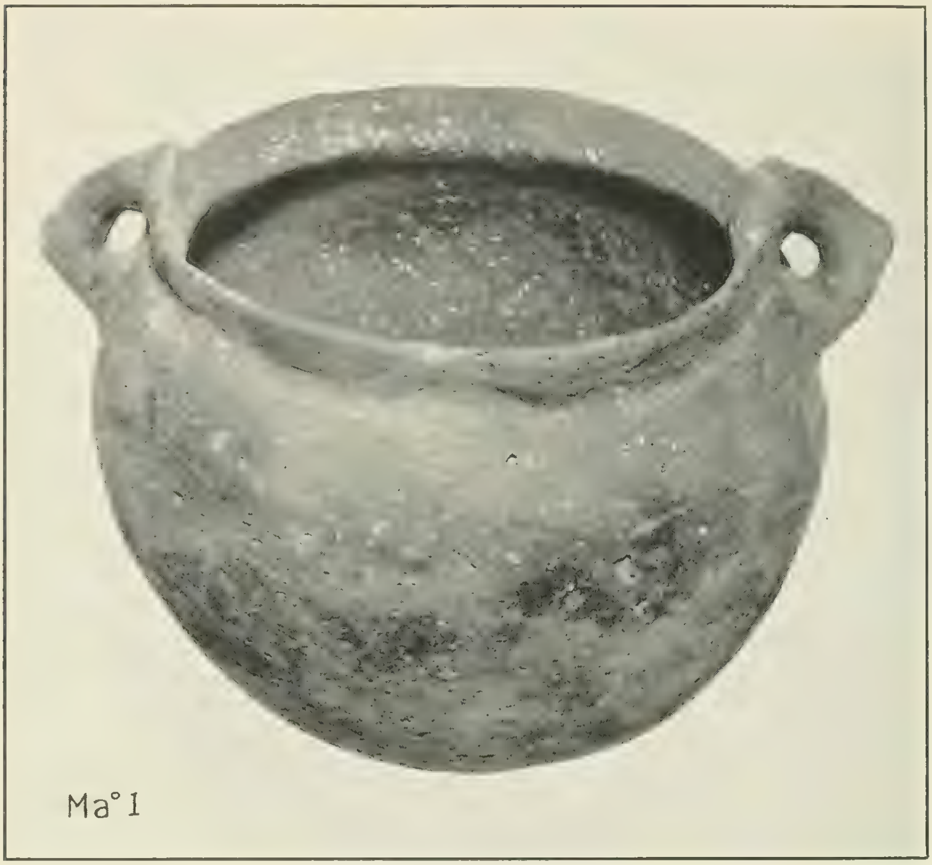
b, Burials Nos. 41 and 42 with mortuary offerings, Site Ma° 1.



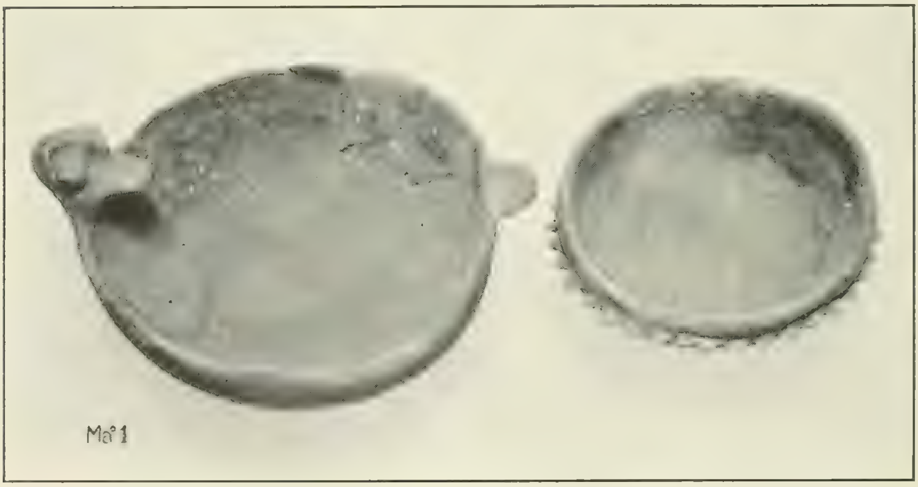
a, Shallow open bowls, Site Ma° 1.



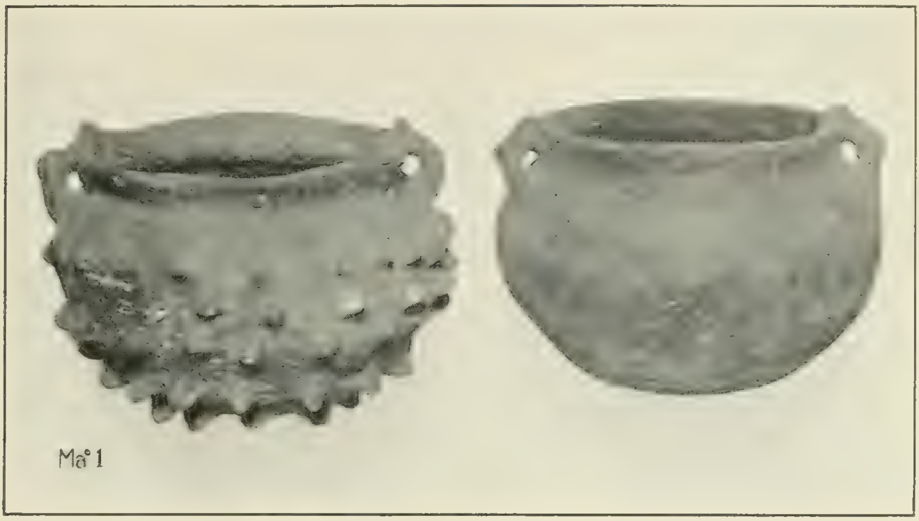
b, Unusual pottery forms, Site Ma° 1.



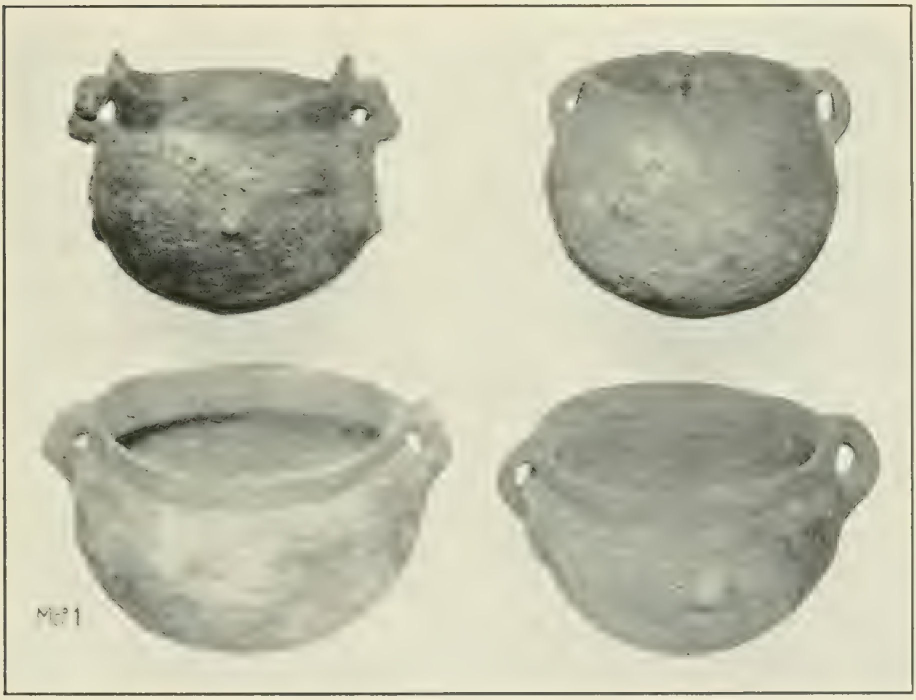
a, Plain pot with round handles, Site Ma° 1.



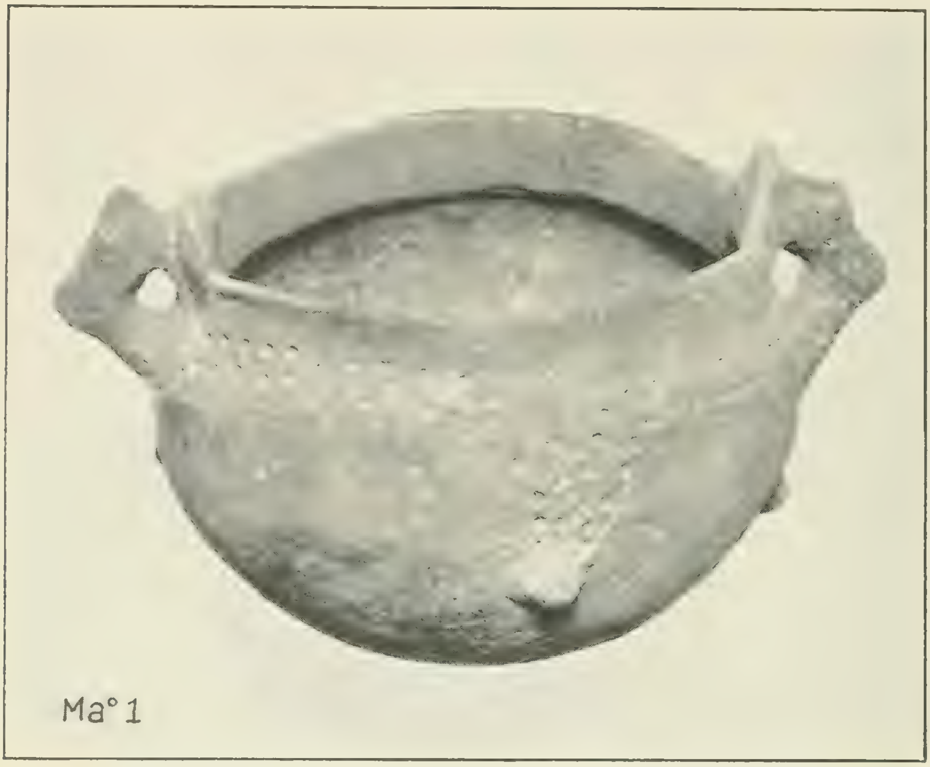
b, Decorated open bowls, Site Ma° 1.



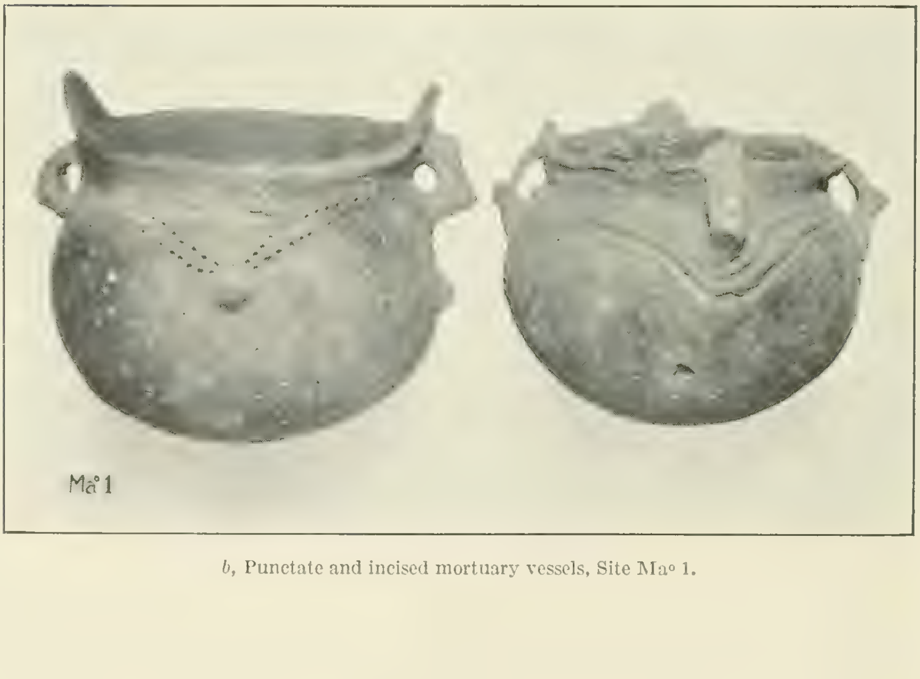
a, True pots, decorated and plain, Site Ma° 1.



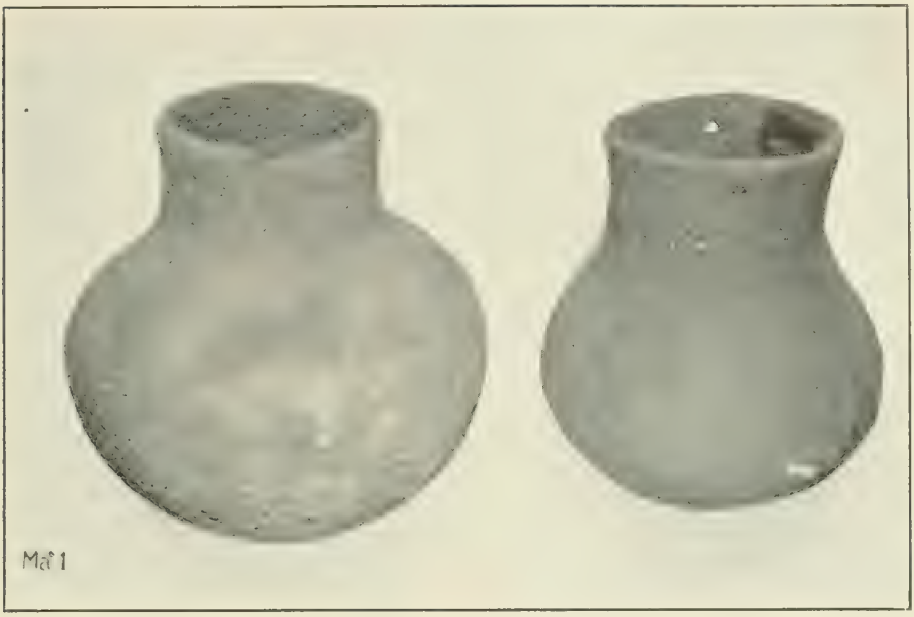
b, Small pots used as mortuary offerings, Site Ma° 1.



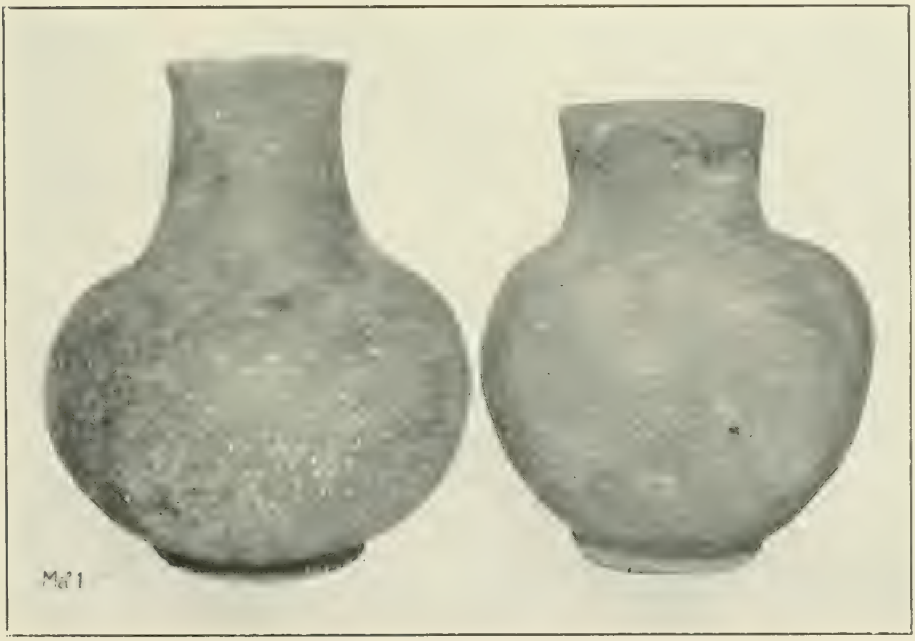
a, Punctate decoration, mortuary vessel, Site Ma° 1.



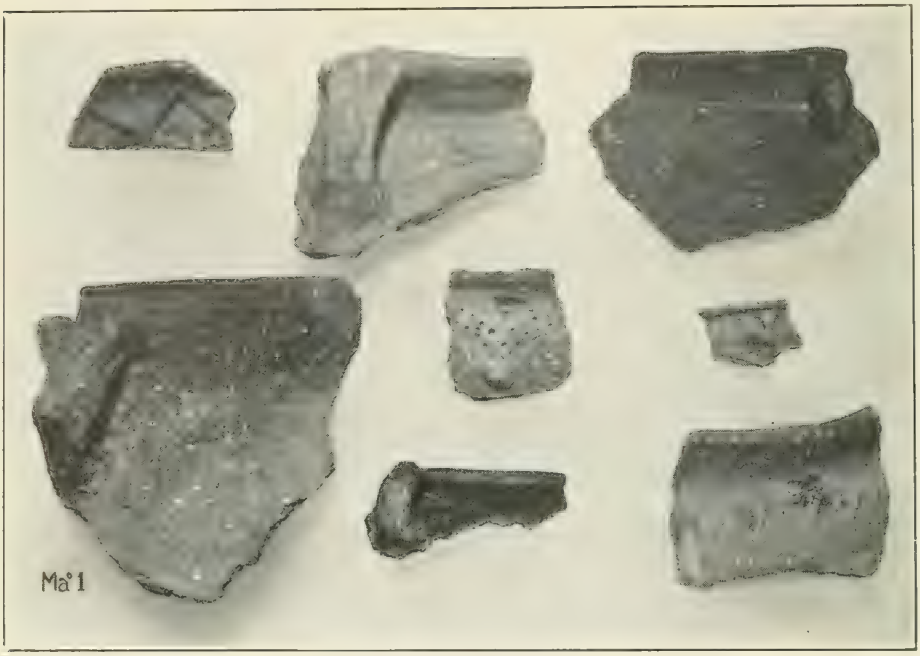
b, Punctate and incised mortuary vessels, Site Ma° 1.



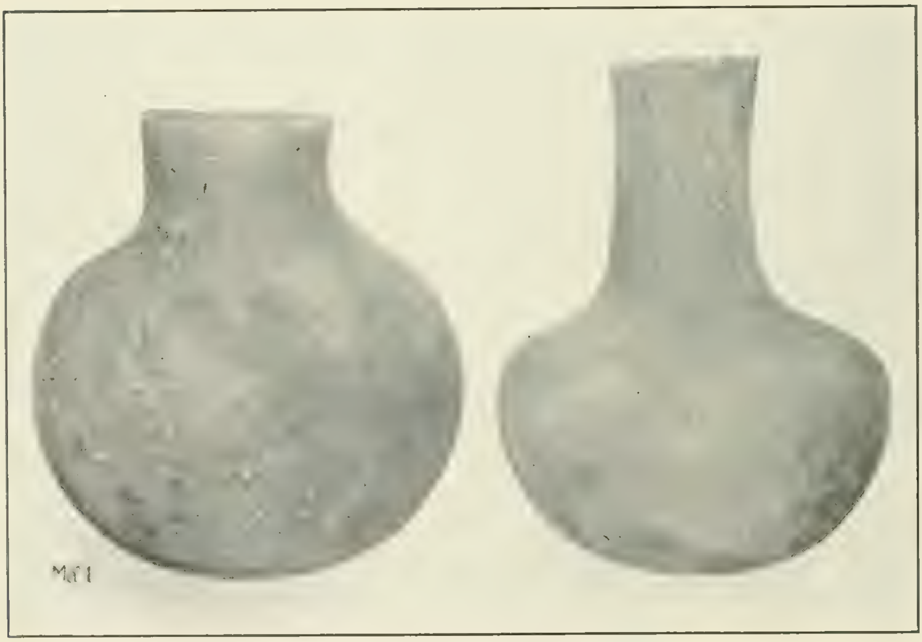
a, Water bottles, crude ware, Site Ma° 1.



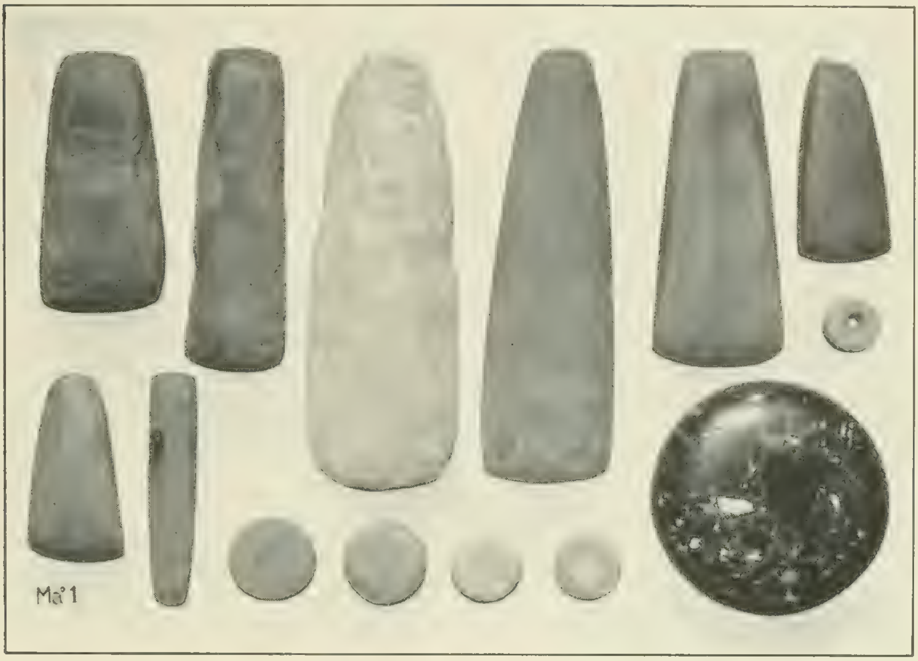
b, Water bottles with extra base, Site Ma° 1.



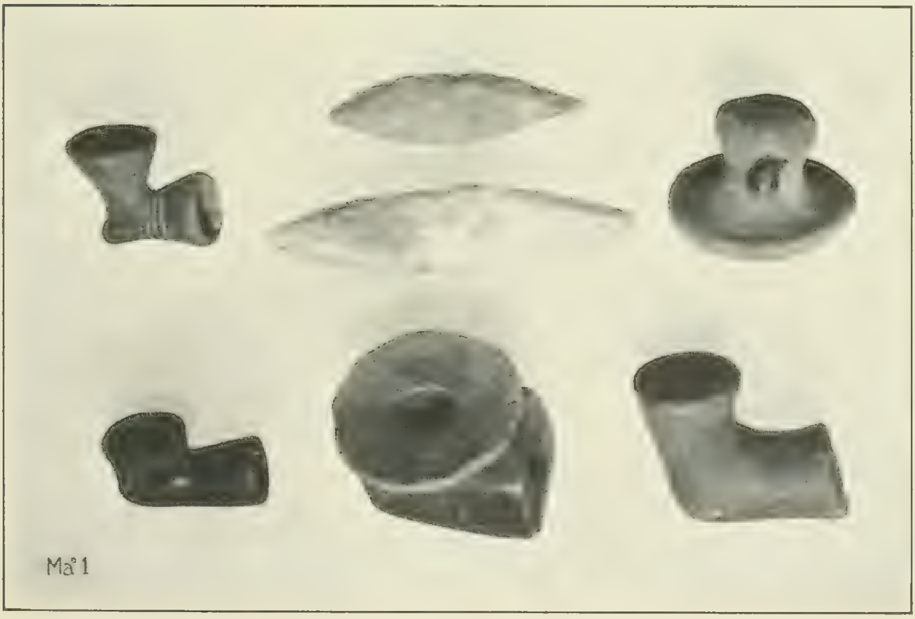
a, Potsherds, Site Ma° 1.



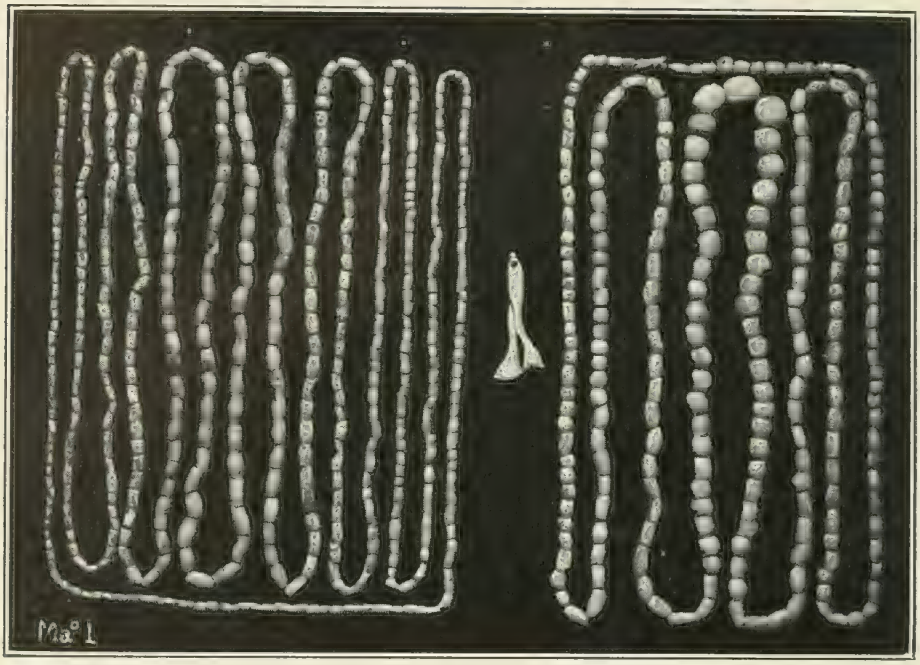
b, Short- and long-necked water bottles, Site Ma° 1.



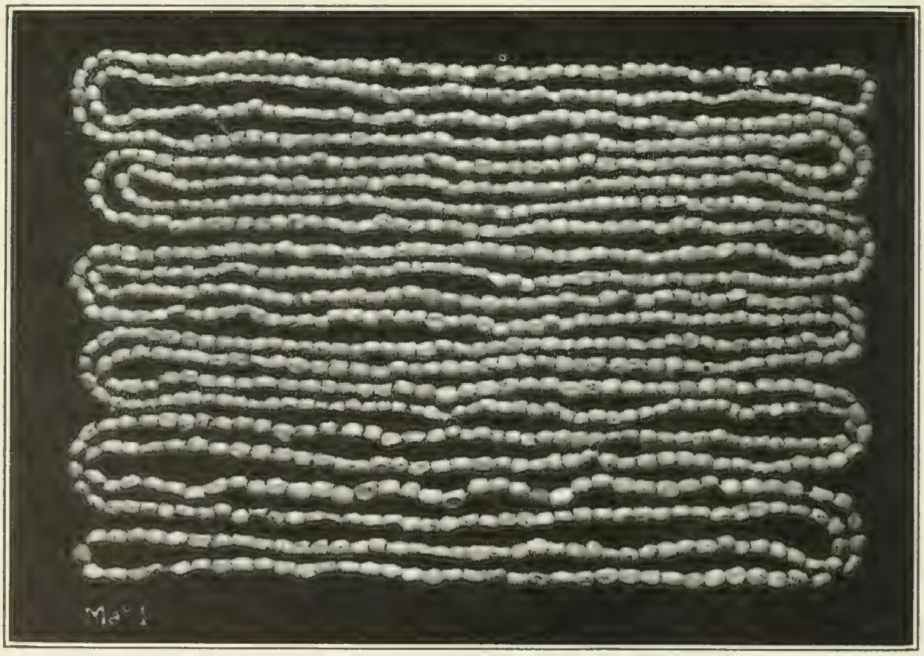
a, Celts and discoidals, Site Ma° 1.



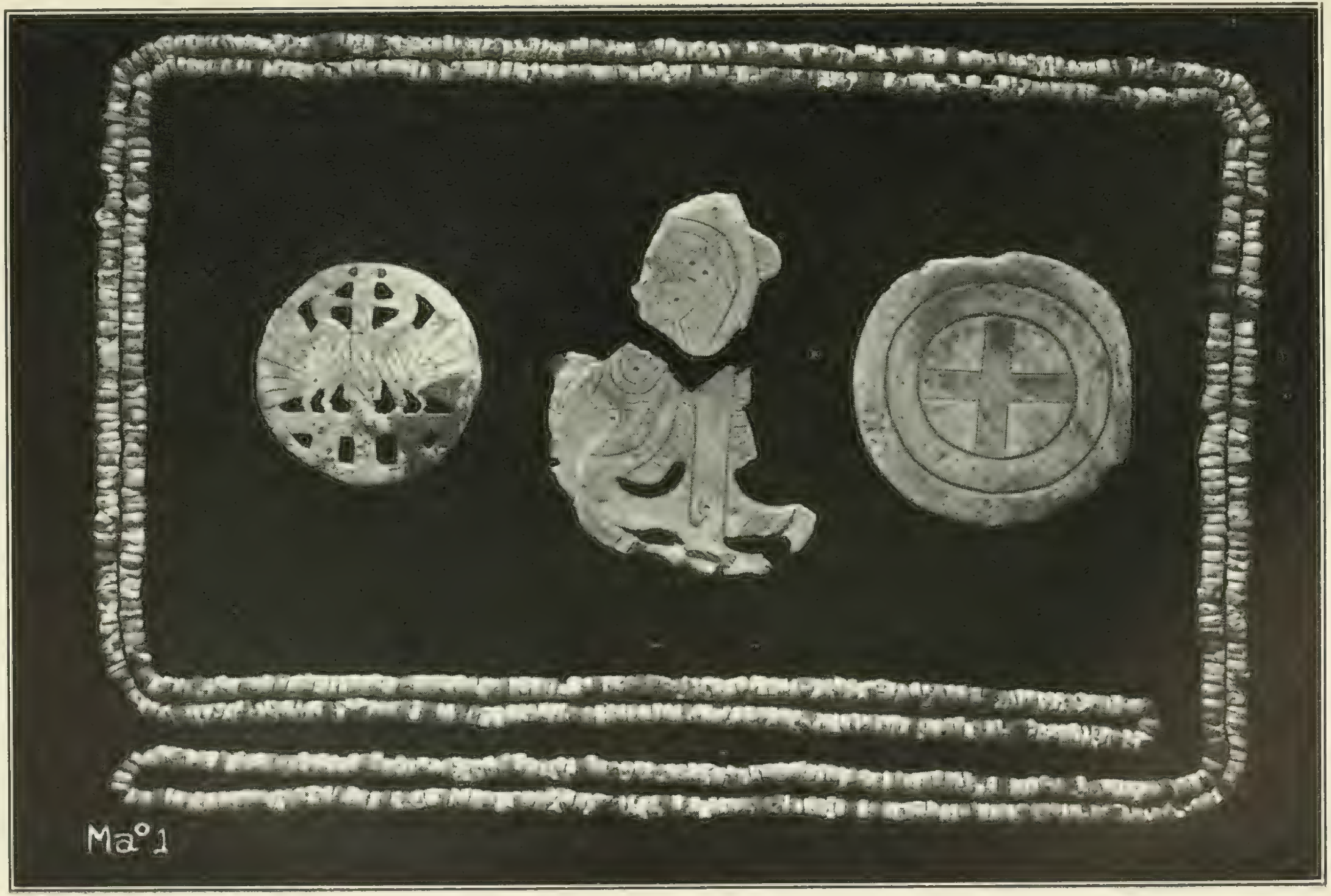
b, Pipes, flint knives, and pottery trowel, Sites Ma° 1 and Ma° 3.



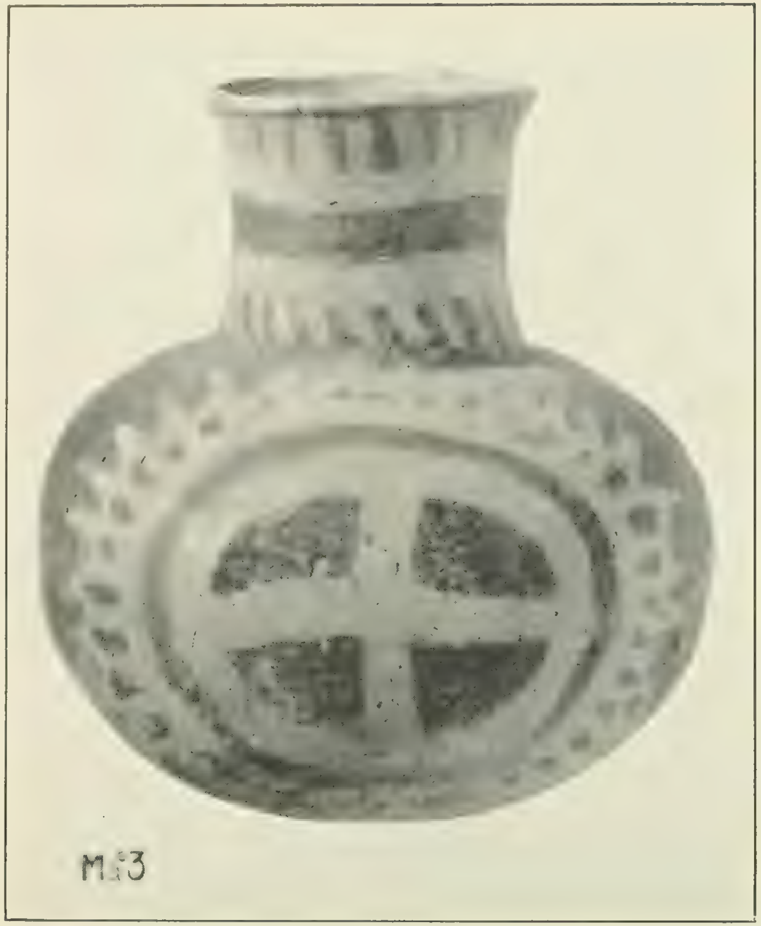
a, Beads from wrists and ankles of Burial No. 28, Site Ma° 1.



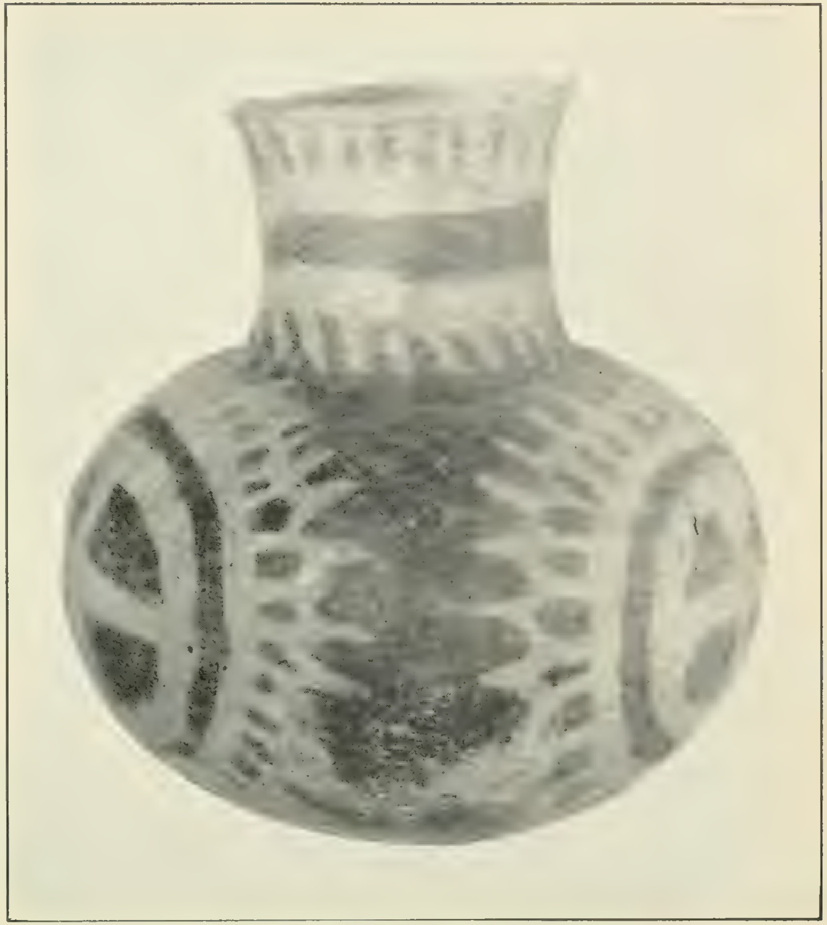
b, Beads from cache at head of Burial No. 28, Site Ma° 1.



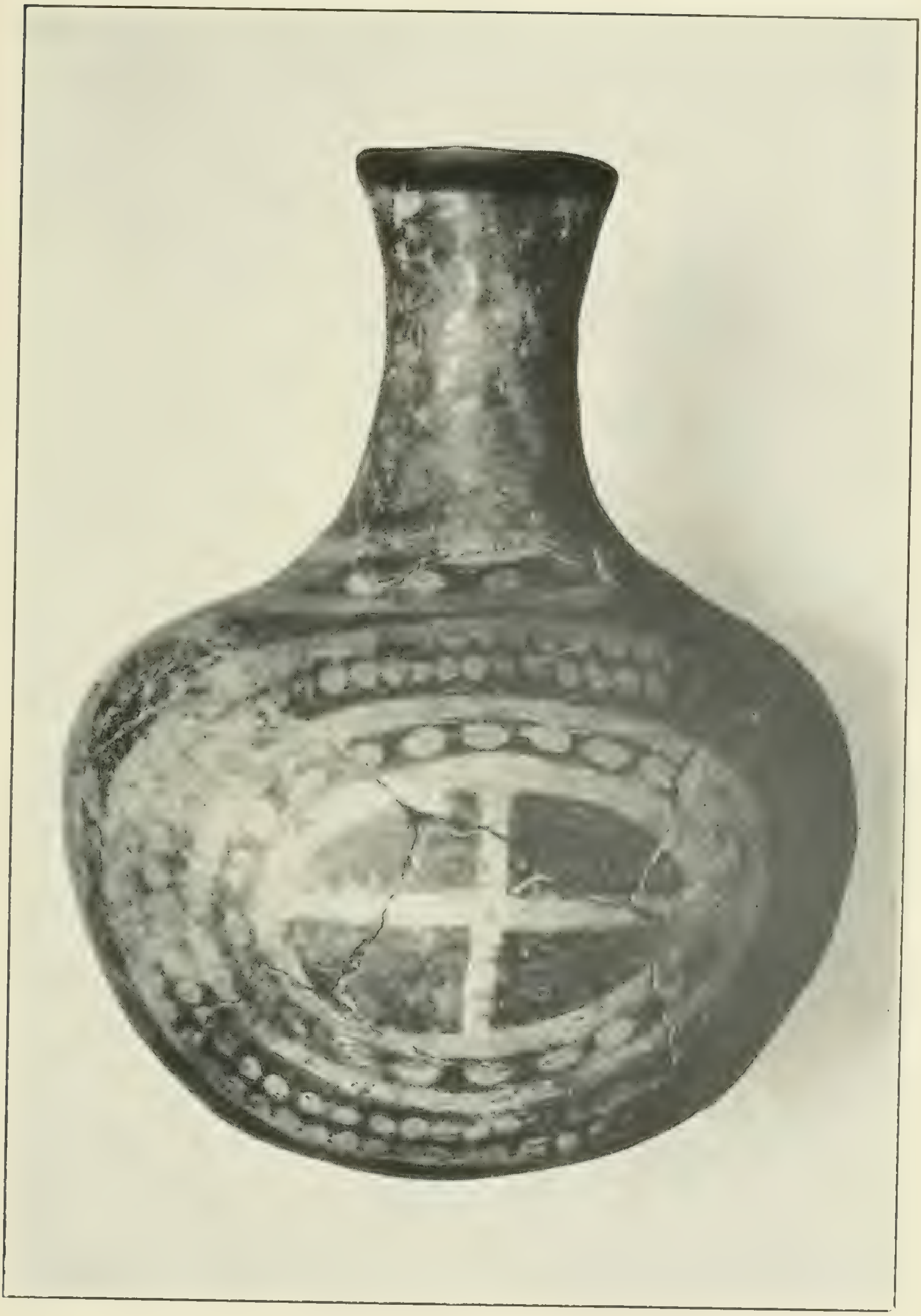
Engraved gorgets, Site Ma° 1.



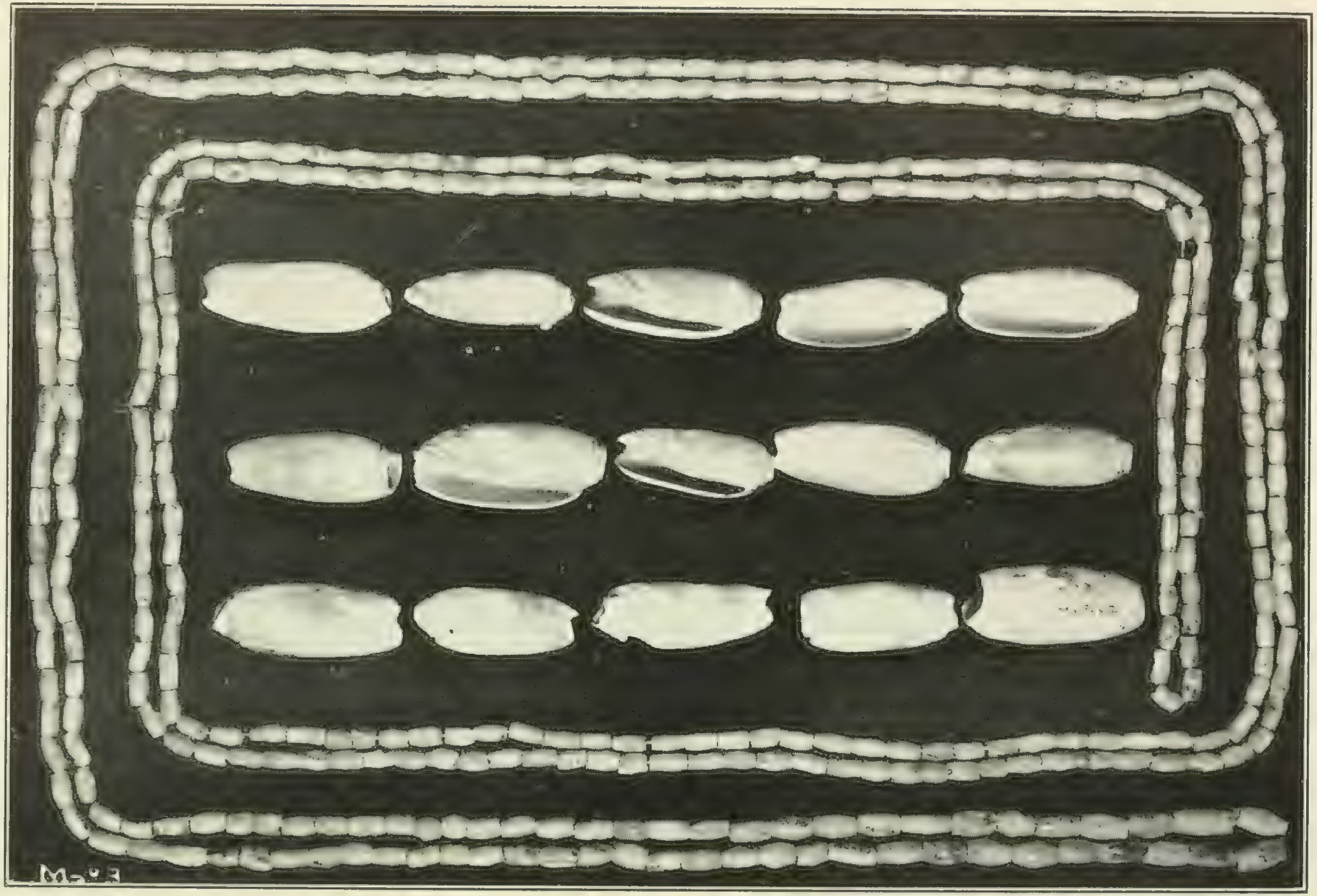
a, Short-necked painted water bottle, Site Ma° 3.



b, Short-necked painted water bottle, Site Ma° 3.



Long-necked painted water bottle, Site Ma° 3.



Beads from skeleton No. 10, Site Ma° 3.

A test pit was dug off center from the top of this mound. The results of this test showed three construction levels within the first 12 feet, the depth to which the excavation was carried. On the top of this mound were found evidences of a brick surface, but the extent of it was not determined.

No profile was made as it was planned to run a trench through the mound to determine if the building levels were consistent through the entire mound. Time, however, did not permit further work due to the premature discontinuance of available relief labor.

SITE Ma° 3

This was a low-lying, oval-shaped earth mound along the west edge of Hobbs Island. Erosion and periodic flooding of the island had washed earth from the top and deposited drift on the sides until the elevation of the top of the mound was only about 2 feet above the cultivated surface of the island. This mound was investigated by the Alabama Museum in December 1932 and 24 skeletons were removed. Burials extended to a depth of about 4 feet below the present surface. Of these burials, 18 were adults, 4 were small children, and 2 were infants. In placement 10 were fully extended, 10 fully flexed, 1 partially flexed, and 3 had been disturbed by later burials. There were recovered from these burials 6 mortuary pots and 6 water bottles. In general the pots were quite similar to those found in Ma° 1. Three of the water bottles are of special interest. The central one, shown in plate 87, *b*, is a bottle 7.5 inches high made of yellow clay, shell tempered, and having three globular legs. This may represent an owl effigy.

Plates 96, *a*, *b;* 97 present water bottles of usual form but painted with the four-world-quarter cross with the encircling sun symbol. The first of these having a short neck, shown in two aspects in plate 96, *a*, *b*, has a neck 2.75 inches long and a mouth with diameter of 3.5 inches. The body of the bottle is 7.5 inches in diameter. It is made of yellow clay painted red, on top of which is laid the black stain. The background is painted black, leaving the design in red. In plate 97 the paint is a dark chocolate color on the light cream-colored clay. Again the figure is made by the dark color being applied to the background. Three figures were on each bottle, so that each subtended about 120°.

In plate 98 are shown oliva shells and beads found under the chin of skeleton No. 10. All pipes except the central one and flint knives shown in plate 93, *b*, are also mortuary offerings found in this mound.

SITE Ma° 4

This mound was a large shell midden and village site, oval in shape and approximately 300 feet long and 125 feet wide. It was located at the extreme south end of Hobbs Island, as shown in the contour map (fig. 19). This mound was about 4.5 feet in extreme height above the general level of the island. It was but little disturbed since it had not been generally cultivated. It had long been used as a dwelling site, having on it at the time of exploration a house, a barn, outbuildings, fences, and a few large trees, as shown in plate 99, *a*. While permission was given to excavate this mound it was not contemplated that any permanent improvements or large trees would be removed (pl. 107, *a*). These obstructions prevented a complete excavation, but sufficient area remained to yield a satisfactory story of the mound's erection.

The mound was laid off in 5-foot squares, 125 feet E.–W. and 150 feet N.–S. The north side of the staked area was the base line. Excavation was begun along the base line and along the west side. These trenches, perpendicular to each other, were referred to the same set of coordinates. Two trenches were cut through the mound, one on the R4 square and the other on the L3 square. Plate 99, *b*, shows the mound staked off and profile R16 exposed.

The most striking feature of the profiles of this site was the uneven and undulating character of the bottom of the shell layer.

It was found possible to divide the soil of the mound into four categories. The uppermost was a light brownish-black aerated clayey loam. Nowhere was this over 2 feet thick. In many places on the mound this soil was not in evidence as the second type, the shell, was exposed on the surface. The shell in places was very concentrated but for the most part scatteringly distributed in a black loam. The thickness of shell was very variable, decreasing in places to a few inches and widening out in others to 6 feet. Below the shell was a soil similar to the topsoil, but usually a bit darker in color. This, too, had a variable depth from a few inches to 2.5 feet. It was impossible to determine whether or not this was undisturbed soil, but it contained no potsherds or artifacts. The fourth category consisted of a light-colored sand which had a variable thickness, and a light-colored clay hardpan which underlay the sand to an undetermined depth. This was unquestionably undisturbed strata, although one burial, skeleton No. 2, was intrusive into it.

An interesting problem was presented with the profiles of this site. This was the peculiar uneven arrangement of shell, both laterally and vertically. The solution seems to be that the inhabitants used mussels sparsely as a diet and that the entire site had been extremely modified and disturbed by washing. This subsequent washing and redeposition would derange the material of the mound and make any percentage counts of little value. This washing would be expected, since the site is on the extreme south upper end of the island and in times of high water would be exposed to the full force of the river flood.

BURIALS

On this site 10 skeletons were found. Four of these were in fair condition and six in very poor condition. Of these burials six were extended, one was flexed, and three were of questionable placement since they had been disturbed. Plates 100, *b*, to 102, *b*, show the method of placement and the condition of some of these extended burials.

Trenches were cut down in 1-foot levels numbered from the surface. Eight burials were on the 2-foot level, one on the 3-foot level, and one on the 4-foot level. There were three male skeletons, three female skeletons, and four of undetermined sex. Two skeletons had associated pottery with them. Burial No. 7 (pl. 100, *b*) had shell artifacts in association. Five burials showed no artifacts definitely associated with them. Two graves contained artifacts but intentional placement was very doubtful. Throughout the mound there was evidence of burned-clay floors of structures. These floors occurred at all levels and were found generally very difficult to trace as to form. They had always been disturbed in some portion, and the sections found appeared as isolated remnants of floors of large structures or else small irregular structure floors more or less complete. Skeleton No. 8 (pl. 101, *b*) was associated with one such floor, having been placed in a grave dug into this floor.

Two fire pots made of the same material as the clay floors were found. One was located in the first level in square 10L15 and the other in square 45R4 at the fourth level. Both of these fire pots were 12 inches deep and 2 inches thick. One was 14 inches and the other 16 inches in diameter. The fire pots were filled with loose dirt and shell.

STONE ARTIFACTS

Projectile points from this site gave little evidence of any particular cultural trend or change. The points are about equally divided among stemmed, stemless, and notched. The stemless varieties fall for the most part in the 2- and 3-foot levels. The greatest number of stemmed points occur in the 1- and 2-foot levels. The notched points are entirely in the 2- and 3-foot levels. With the exception of notched points, all occur sparsely on all levels. The only feature of any significance is that stemmed points appear to be the latest development in projectile point manufacture. The number of points is exceedingly small, 64 being the total found and cataloged. A number of these types are shown in plate 108, *b*.

Numerous other stone artifacts were found. Fifteen celts were obtained, of which nine were greenstone, two limestone, and two quartzite. These all occurred above the 4-foot level. There were also three limestone hoes, a limestone and a greenstone hand ax, a limestone and a sandstone spatula, a sandstone, a flint, and a mica-schist hammerstone, all of which were in the first, second, and third levels. Selected specimens are shown in plate 108, *a*. Flint blades and scrapers were found at all levels, as were sandstone polishing stones.

Bone and Shell Artifacts

Of the bone artifacts, the greatest number were awls, there being seven of them. There were two spatulas, one drift, one needle, and two worked bone projectile points, some of which are shown in plate 109, *b*.

The shell was of several forms. They were worked univalves, bivalves, and two concha shells. One of these latter was in association with skeleton No. 7 and evidently was a container of some kind. It was 9 inches long and 6 inches in extreme width. It is shown in plate 109, *a*. The other concha shell was fashioned into a beautiful narrow gorget. There were large and small shell beads also in association with skeleton No. 7, all of which are shown in plate 109, *b*. Several circular and tubular beads were found scattered throughout the mound. Several large pottery cooking vessels were found in situ (pl. 100, *a*). Two of these are shown partially restored in plate 104.

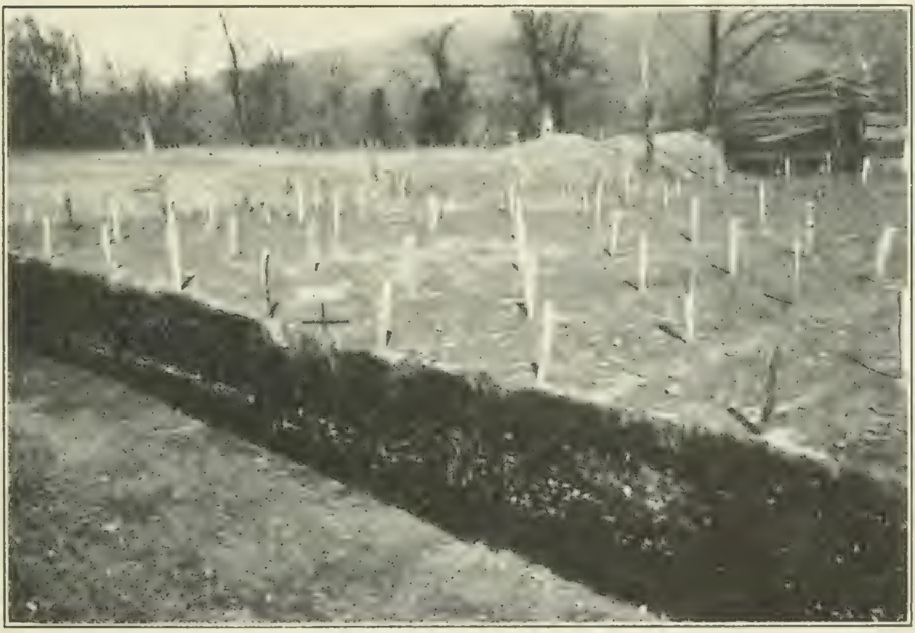
SITE Ma° 5

This site was a low earth mound about 100 feet N.-S. and 70 feet E.-W., situated as shown in plat (fig. 19). It had been eroded until it was almost level with the surrounding field, having been long in cultivation.

This low mound had been a habitation site for a short time only and because of disturbance, cultivation, and erosion it was not possible to determine any strata. No burials were found, but some 1,500 sherds were taken from 3 trenches, 0, L2, and L4. The common type of sherd was plain. Incised and textile sherds were few. Selected sherds are shown in plate 110, *a*. A few chipped sherds appeared in different squares and at different levels. They were so few in number as to constitute no considerable part of the pottery complex, but do show that such ware was known and made.

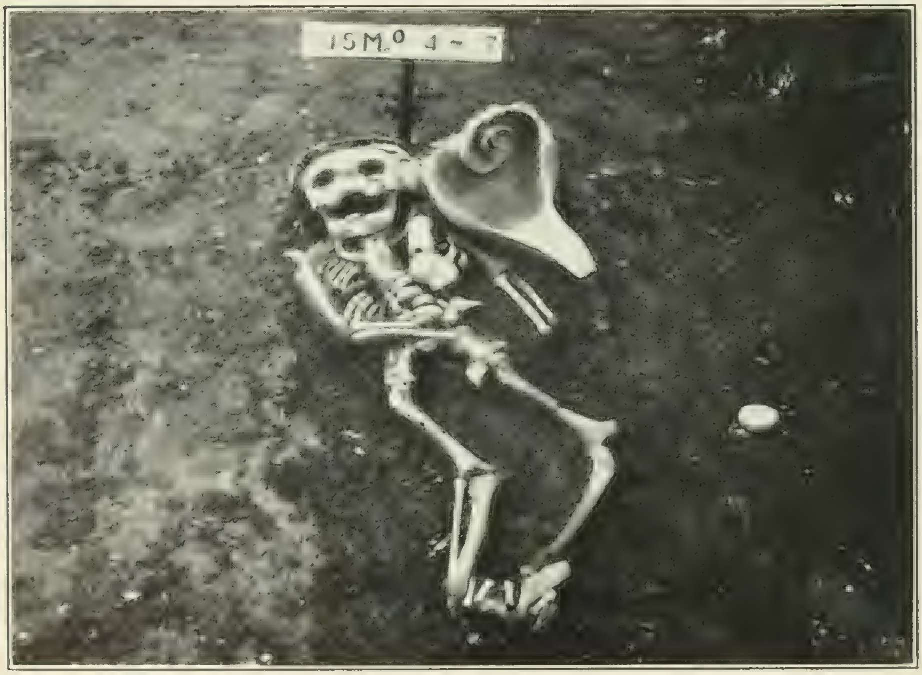
Four projectile points of the stemless variety were found. Also two celts and one limestone hoe were found. One of the celts was of greenstone.

a, View up river from Mound No. 2, Site Ma° 4.

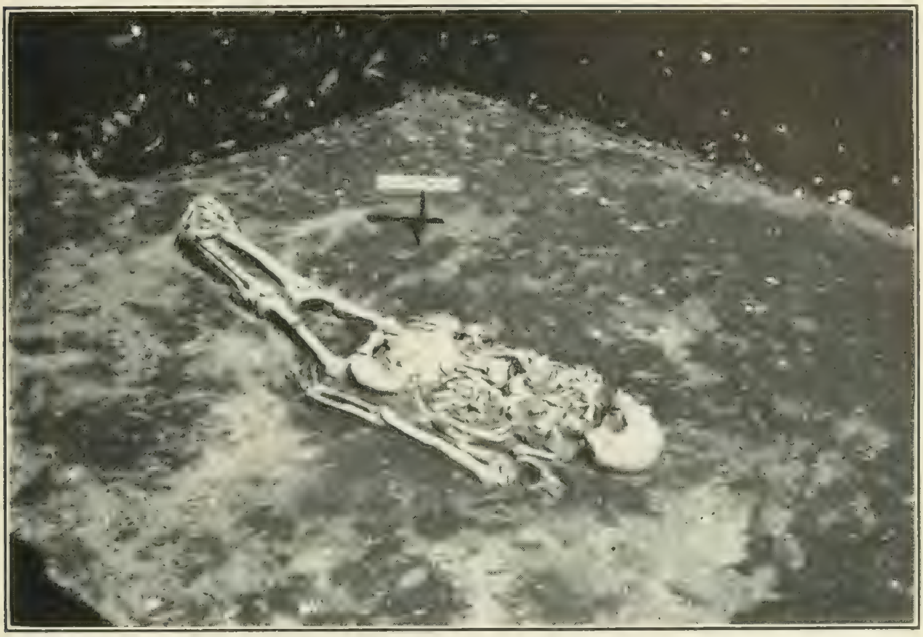


b, Site Ma° 4 staked off. Profile R16.

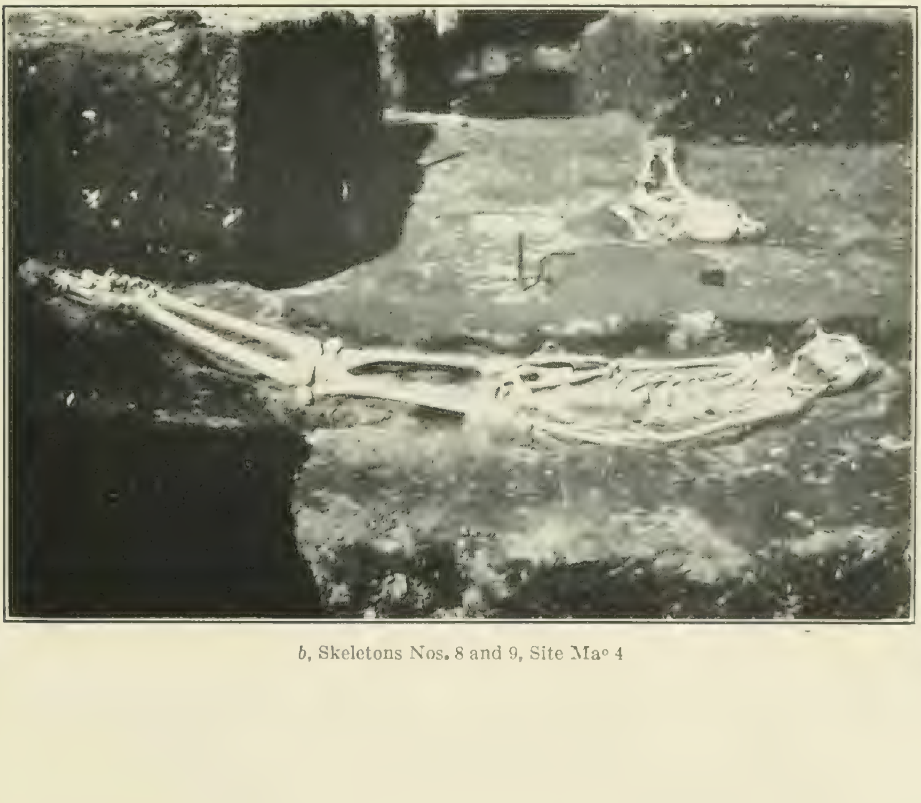
a, Large potsherds in square 105R16, Site Ma° 4.



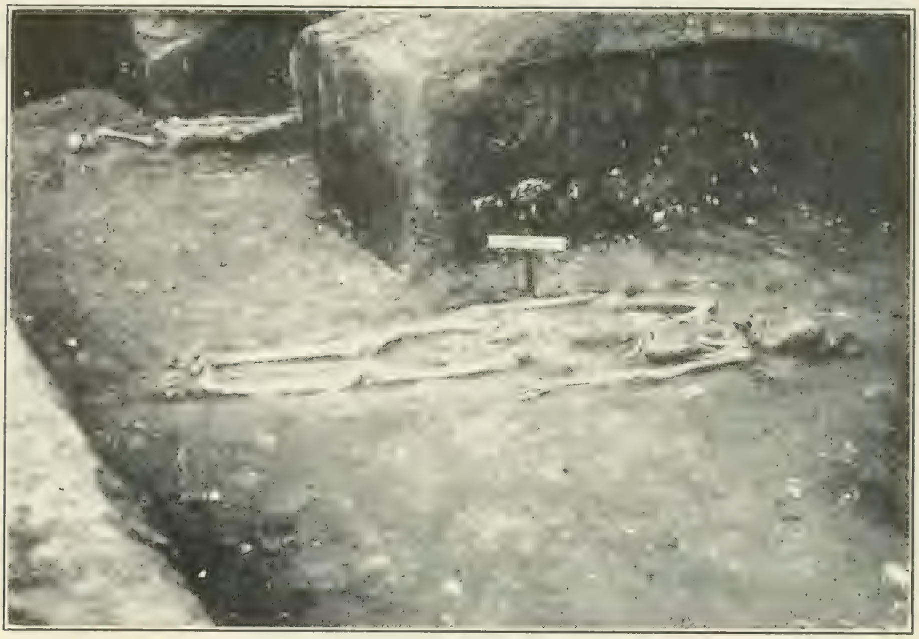
b, Skeleton No. 7 with artifacts, Site Ma° 4.



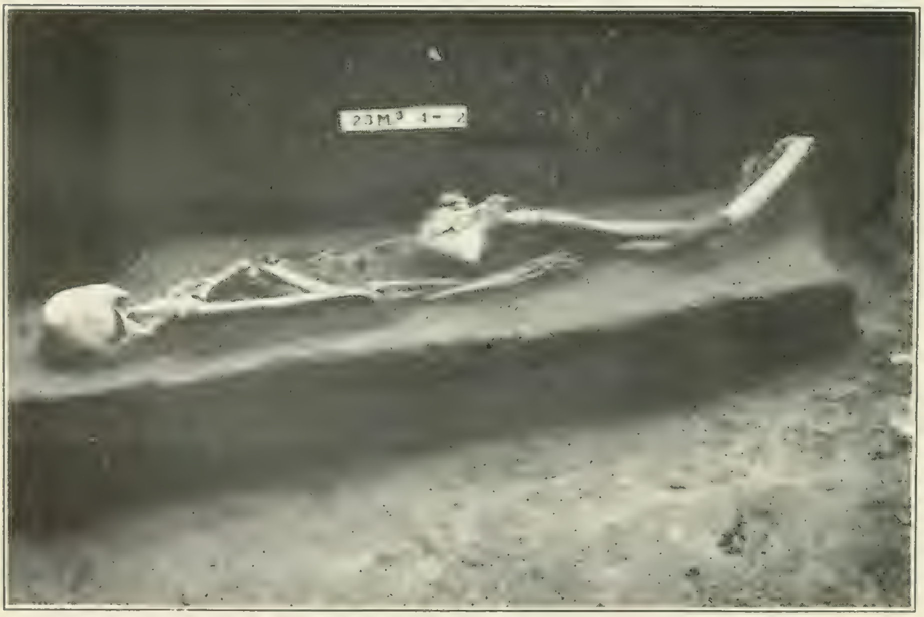
a, Skeleton No. 9, Site Ma° 4.



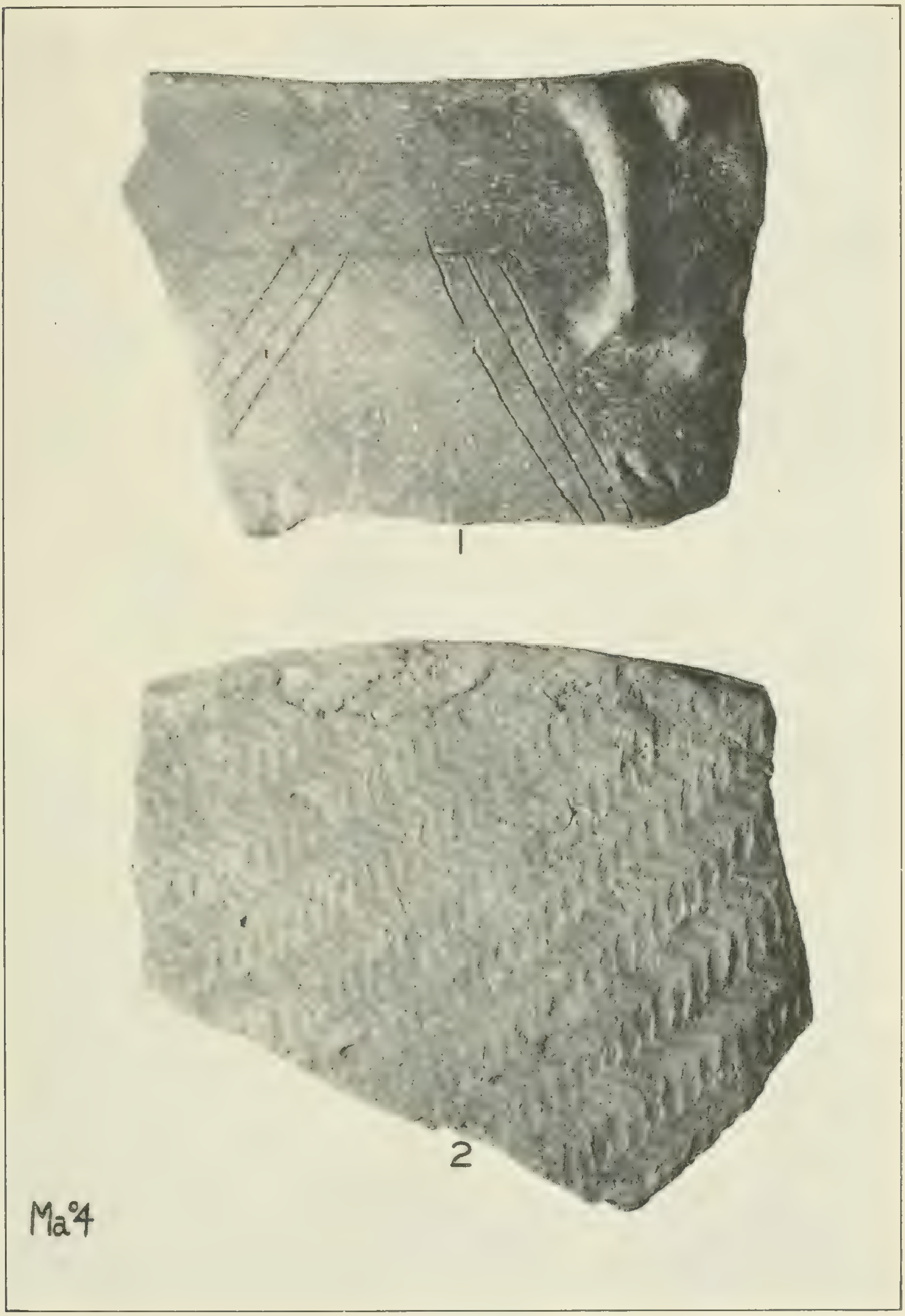
b, Skeletons Nos. 8 and 9, Site Ma° 4



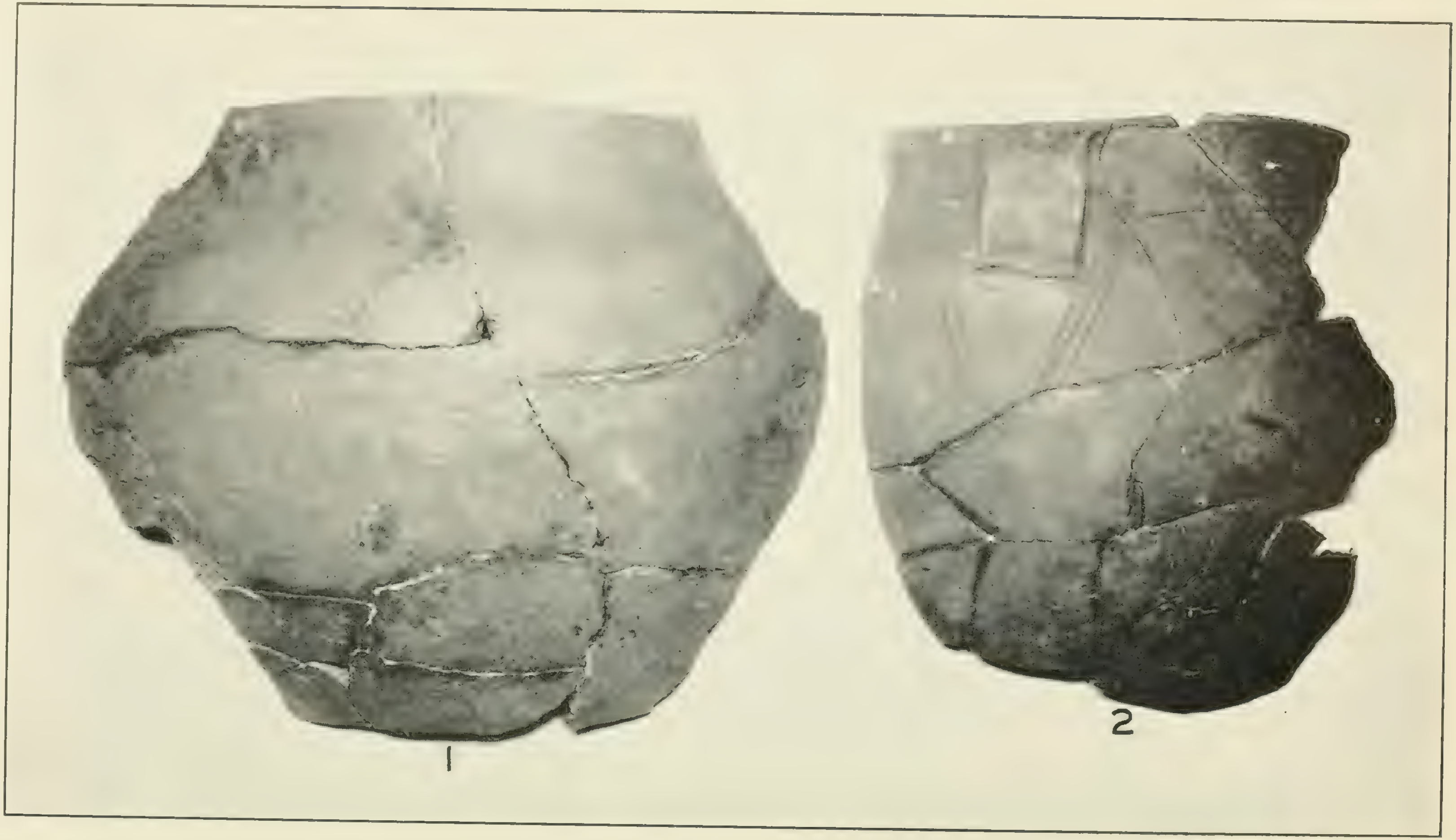
a, Skeleton No. 5, Site Ma° 4.



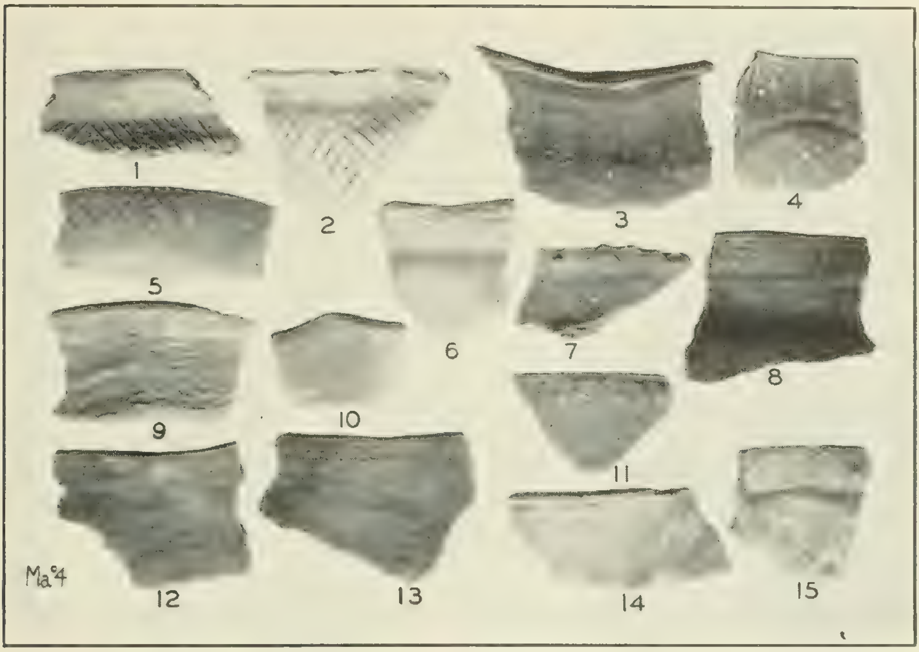
b, Skeleton No. 2, Site Ma° 4.



Large sherds from utility vessels, Site Ma° 4.



Very large utility vessels partially restored, Site Ma° 4.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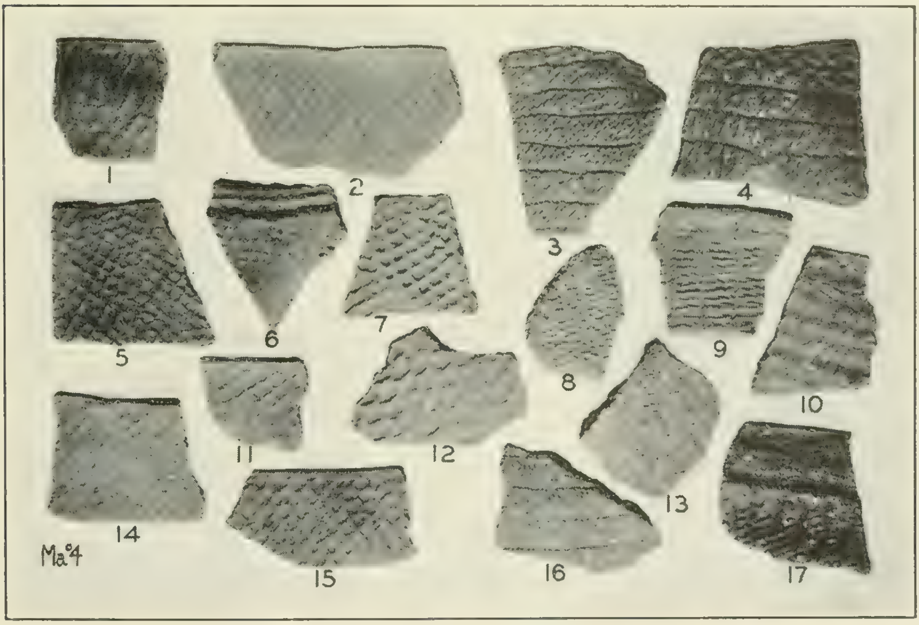
Ma°4

a, Selected rim sherds, Site Ma° 4.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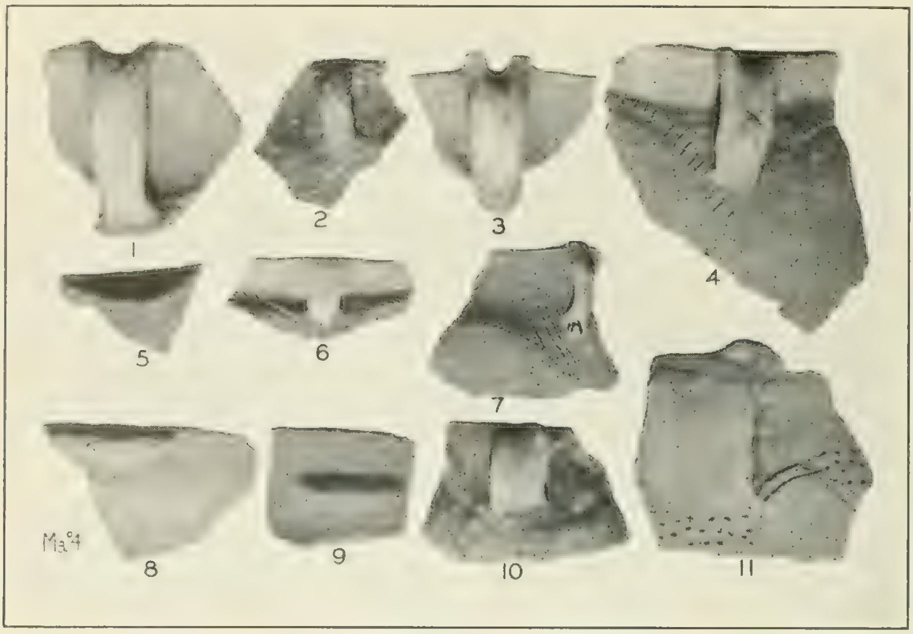
Ma°4

b, Textile and stamped sherds, Site Ma° 4.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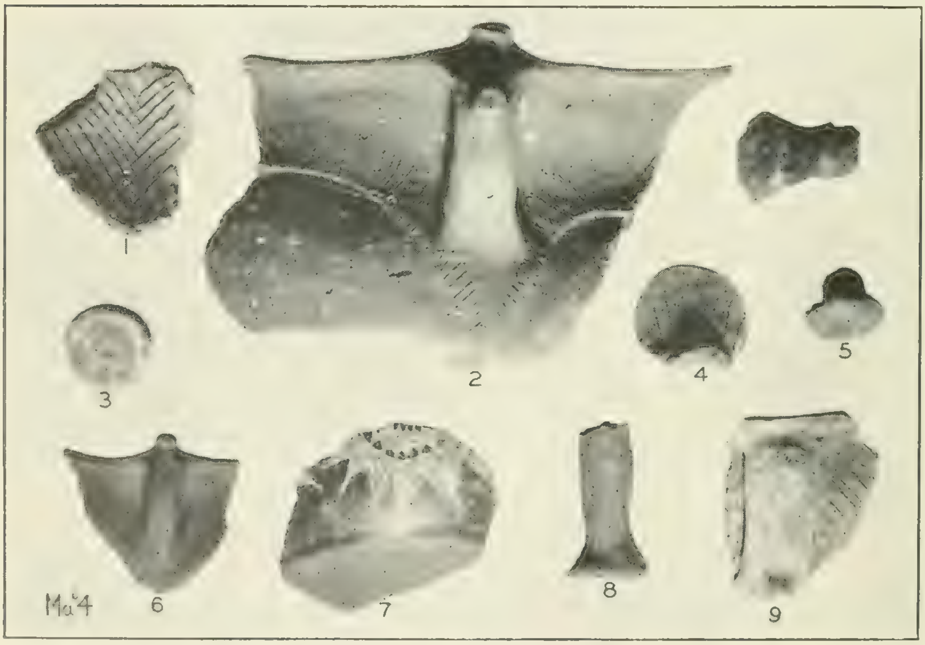
a, Strap and round handles, Site Ma° 4.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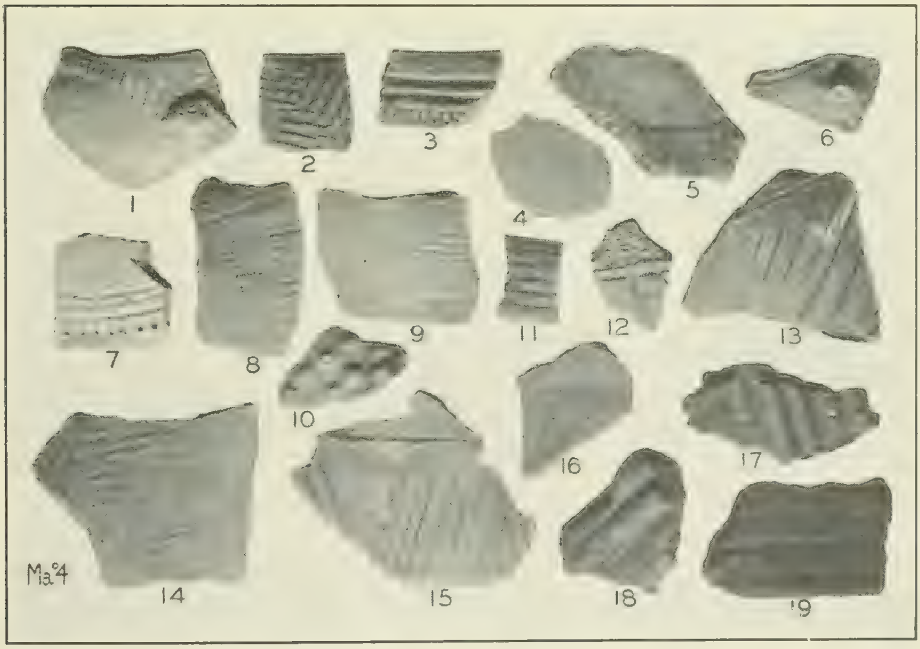
b, Incised sherds, Site Ma° 4.

a, Excavation completed, trenches filled, Site Ma° 4.



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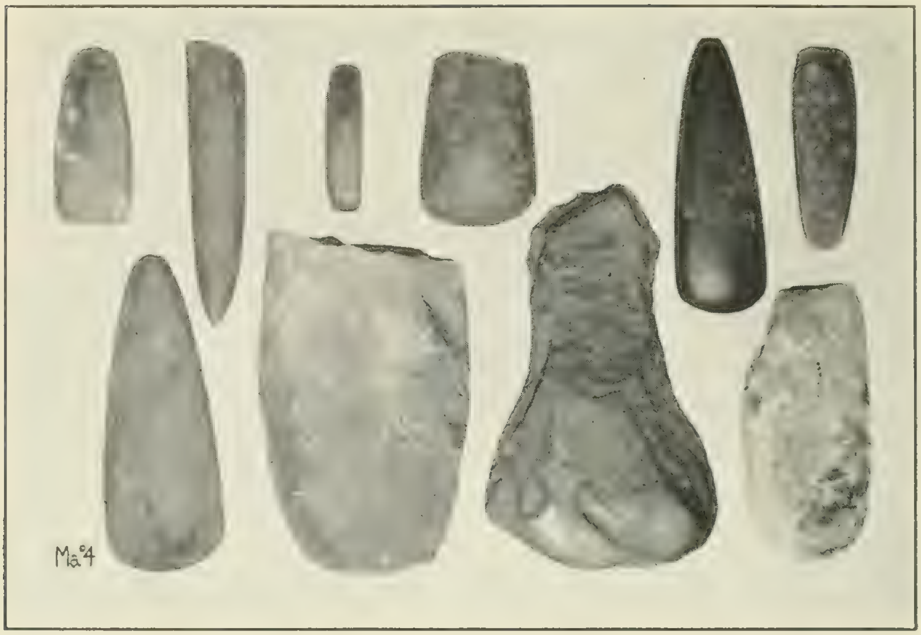
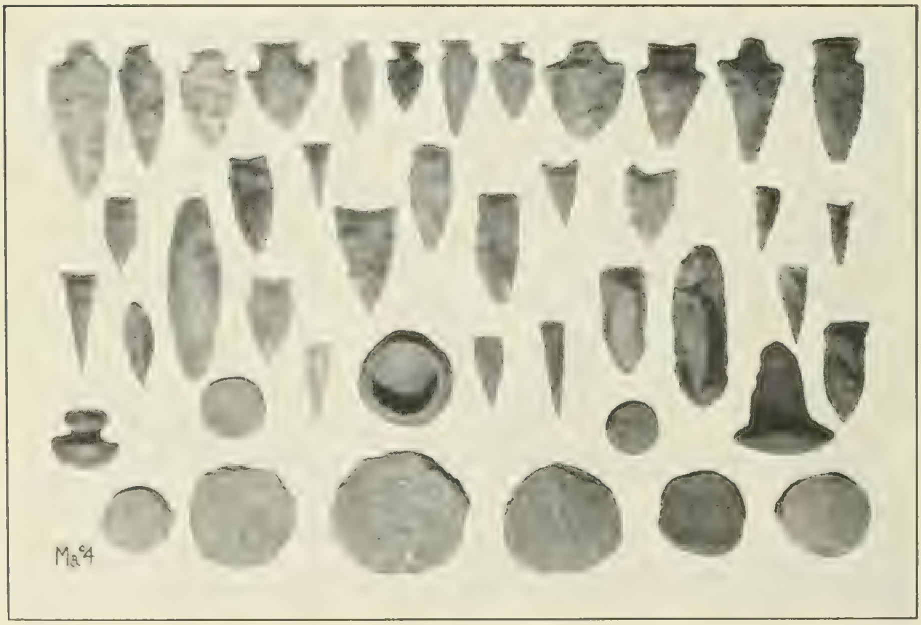
Ma°4

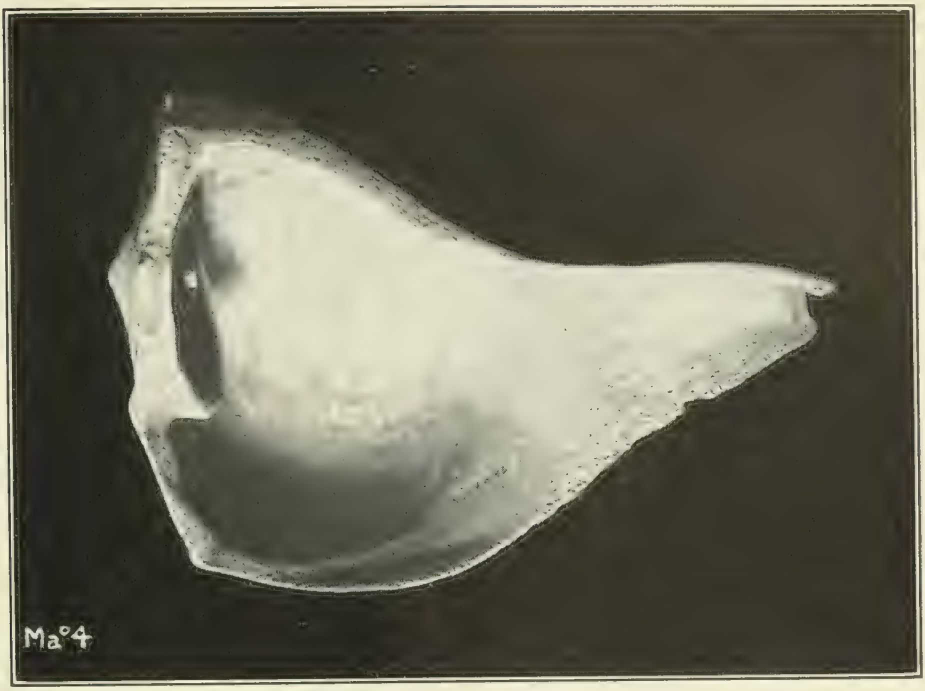
b, Incised sherds and wattlework, Site Ma° 4.



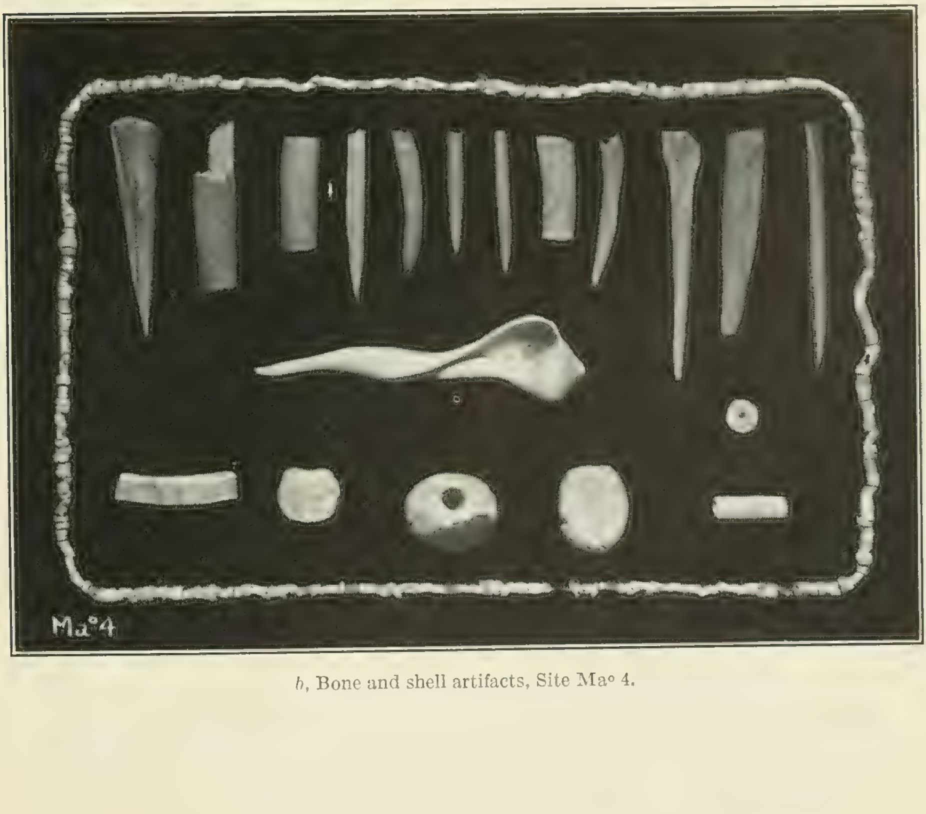
a, Celts, hoes, and spades, Site Ma° 4.



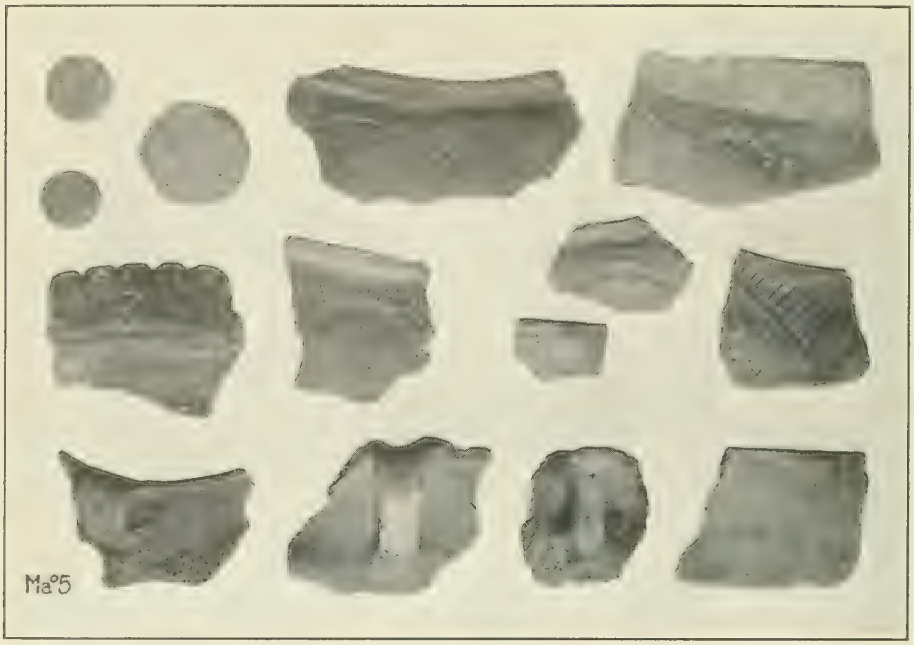
b, Projectile points and pottery disks, Site Ma° 4.



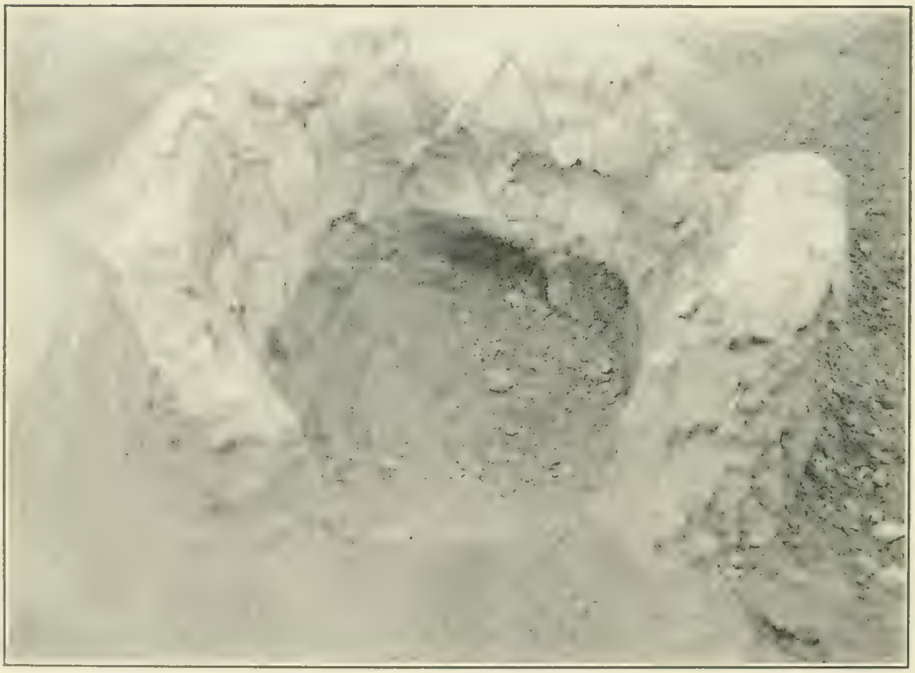
a, Large marine shell, Site Ma° 4.



b, Bone and shell artifacts, Site Ma° 4.



a, Sherds from Site Ma° 5.



b, Fire basin from Site Ma° 5.

While there was no definite evidence of any prepared floors, a well-made heavy-walled clay fire basin was found. This basin is shown in plate 110, *b*. It had been damaged by the plow, but enough remained to show that the level on which it rested probably represented a habitation level.

SUMMARY OF UNEXCAVATED SITES IN WHEELER BASIN

Including the some 19 sites which were excavated and are reported in detail in this report, there was found a total of 237 sites within the Wheeler Basin. These sites will all go under water when Wheeler Lake reaches its final level. Since future explorations of the remaining 216 sites will be impossible, and since lack of time and labor prevented extensive explorations of all of these sites during this survey, it was thought wise to record all possible data relative to them which could be obtained without excavation.

The location of these sites is shown by number on map 2. In the tabulation which follows there is briefly listed such information as could be obtained by a superficial survey. This information is recorded in greatest brevity to conserve space. Where is was possible, collections of surface material were obtained by the Alabama Museum. Sample material is shown by photographs in such cases.

IN LAUDERDALE COUNTY, ALA.

[A total of 11 sites are listed]

Lu▾ 74. Camp site. Area 1 acre. Surface shows flint spalls, broken points, and rejects. Many turtle backs crudely chipped from gray chert (pl. 111, *a*).

Lu° 75. Mound. Conical. 80 feet in diameter and 5 feet high. Surface shows flint spalls, broken points, and rejects. Many turtle backs crudely chipped from gray chert.

Lu▾ 76. Village. 100 feet by 1,400 feet. Surface shows flint spalls, broken points, and rejects. Many turtle backs crudely chipped from gray chert. One 5-inch greenstone celt found on surface. Forms of points are shown in plate 111, *a*. A few scraps of shell-tempered pottery were found on surface.

These sites are located on a bluff about 40 feet above the river and are about 100 feet distant from it on the property of Capt. W. F. Harrison, 5 miles south of Rogersville. Lu▾ 74 is about 0.5 mile downstream from the mound and village. The mound and village have long been in cultivation.

Lu° 77. Mound. Conical. 15 feet in diameter and 3 feet high. Surface shows pottery sherds, mostly gravel tempered. Surface generally plain. A few were square stamped or cord paddled with rims plain.

Lu° 78. Mound. Conical. 25 feet in diameter and 3 feet high. Pottery was similar to Site 77.

Lu^{v} 79. Village. 1 acre. Pottery was similar to Site 77.

These sites lie on a high bluff overlooking Elk River, about 0.25 mile from its mouth on Tennessee River. It is known locally as "Blind Horse Bluff," and is about 75 feet above river level, on the farm of Oscar Cox, of Rogersville. Lu^{v} 79 surrounds mounds 77 and 78. These mounds, which yielded skeletal material and a number of whole pots when explored by a resident of Decatur, will not be inundated.

Lu^{v} 80. Camp site 0.5 acre on Blind Horse Bluff on the Tennessee River, 0.5 mile below the mouth of Elk River. The site is about 0.25 mile from the river bank on the farm of Frank Perry, of Florence, Ala. Surface find included a 4-inch greenstone celt, a hammerstone, projectile points, and knives, showing a high art of chipping. Many projectile points showed distinct bevel (pl. 111, *a*).

Lu^{v} 81. Village site. 150 feet by 750 feet, on a ridge about 0.25 mile below Lu^{v} 80 and the same distance from the river on the farm of Capt. W. F. Harrison. Will not be inundated. Surface shows crude chert celts, flint spalls, shell beads, flat disk beads of 0.5 inch diameter, and flint points (pl. 111, *a*).

Lu^{v} 85. Village. Examined and reported.

Lu° 86. Shell mound. Excavated and reported.

Lu° 87. Village. 1 acre. 1 mile northwest of Lamb's Ferry and 450 feet from the Tennessee River on the farm of Dr. L. A. Weaver, of Rogersville. The site is a slight elevation which will be inundated. It is 250 feet long and 150 feet wide. It was dug into by C. B. Moore in 1915.

IN LAWRENCE COUNTY, ALA.

[A total of 30 sites are listed]

La^{v} 1. Village. 100 feet by 415 feet in river bottom at mouth of Fox Creek Will be inundated. Surface shows small quantity of flint chips and sand-tempered plain pottery.

La^{v} 2. Village. Covers upper end of Knight's Island for 1,135 feet. Surface shows flint spalls. Pottery is sand tempered, thin ware, cord impressed and cord paddled.

La° 3. Mound. 9 feet high, 100 feet in diameter. Located in center of village site La^{v} 2, near head of island. Sites 2 and 3 are on the property of John Knight, of Decatur. All will go under water (pl. 112, *b*).

La° 4. Shell mound. 4 feet above ridge, 170 feet wide, and 630 feet long, on mainland 0.25 mile down south side of river from head of Knight's Island. Surface shows large quantity of flint, turtle backs, and rejects, broken limestone hoe, chipped. Flint, mostly dark blue, several carefully chipped knives, pointed on one end and circular on other (pl. 111, *b*).

La° 5. Shell mound. 7 feet high, 148 feet wide, and 330 feet long. Located in river bottom at foot of Milton's Bluff on the property of Miss Annie Wheeler, of Wheeler Station. Excavated by C. B. Moore in 1915. Surface shows chipped limestone hoes, scraps of shell-tempered plain pottery.

La^{s} 6. Bluff shelter, mouth 6 feet high, 11 feet wide, and 85 feet deep.

La^{s} 7. Bluff shelter, mouth 7 feet high, 18 feet wide, and 23 feet deep.

La^{c} 8. Bluff shelter, mouth 8 feet high, 6 feet wide, and 50 feet deep.

All three shelters are in bluff on river canal between Canal Island and mainland. These sites are 150 feet below lower gate of lock No. A and are on Federal property. In summer of 1933 a white family was living in La^{c} 7.

La^{o} 9. Shell mound. 7 feet high, 195 feet wide, and 305 feet long as reported by C. B. Moore, who excavated it in 1915. It is near center of south bank of Gilchrist Island on the property of Tesse Love, of Courtland.

La^{o} 10. Mound. 7 feet high, 65 feet wide, and 75 feet long. A truncated pyramid. Dug into by Moore. On property of Lawson Sikes, of Courtland.

La^{f} 11. Workshop. About 200 feet by 200 feet on slight ridge above the river bottom, 0.25 mile south of La^{o} 10 on same property. This location is called Sycamore Landing. Both sites will be inundated. Surface shows spalls of gray flint and a well-worked hammerstone.

La^{v} 12. Village. 415 feet wide and 525 feet long at the head of Tick Island. Surface shows many potsherds, cord-wrapped, paddled, and also stamped ware. Both decorations gravel tempered.

La^{o} 13. Mound. Sand-excavated and reported. Surface shows pestles, hammerstones, lapstones. Large pottery plain, over 0.5 inch thick.

La^{o} 14. Mound. Excavated and reported.

La^{v} 15. Village. 110 feet by 360 feet. Has shape of an island on the north bank. A pit dug 6 feet deep failed to reach undisturbed soil. Surface material shows projectile points, stemmed, with parallel sides and straight base. Sand-tempered sherds, straight rims, notched decoration 0.5 inch below rim. Intaglio pattern made by cane. Cord paddled and repousse lines of dots below the rim as in Site Ct^{v} 17. The edge of this sherd is milled. One rim sherd showing shell tempering is a partially finished disk.

La^{o} 16. Mound. 2 feet high, 25 feet in diameter, and about 700 feet west of La^{v} 15. Surface shows projectile points similar to La^{v} 15. Pottery, grit tempered, cord impressed. Also impressions of texture "not twined," stamped ware, pattern erased, plain rims showing fluting on the rim. Broken pipe bowl 0.5 inch high, with small diameter, shell-tempered pottery. This pipe was broken by a shovel but at one time all of it was there.

La^{o} 17. Shell mound. 3 feet high, 110 feet wide, and 245 feet long. On south side of Tick Island 0.75 mile from lower end.

La^{o} 18. Village site. 150 feet wide and 720 feet long. Located along a low ridge adjacent to La^{o} 17.

La^{o} 19. Shell mound. 3.5 feet high and having diameter of 95 feet. Adjacent to La^{o} 18.

La^{v} 20. Village. 105 feet wide and 595 feet long. Has form of low ridge. Adjacent to La^{o} 19.

La^{v} 21. Village. 200 feet wide and 300 feet long on south side at the head of Tick Island. Surface shows a few sherds of thin shell-tempered pottery.

Sites 12 to 21 are located on Tick Island. This island, the property of Mr. Hood Harris, of Courtland, Ala., is about 2 miles in greatest length and has a maximum width of 0.75 mile and contains 544 acres. The lower end of the island is at the head of Little Muscle Shoals and is 1.5 miles from the General Joe Wheeler Dam. It will be completely submerged by about 40 feet of water.

La^c 22. Cave. In limestone bluff, 35 feet above river level and 15 feet below top of bluff. Located opposite Gilchrist Island and 0.75 mile below lock B, on the property of Mrs. Kattie Sikes, of Courtland.
La^v 23. Village. 200 feet by 300 feet and 0.5 mile east of La^o 24.
La^o 24. Mound. 10 feet high and 70 feet in diameter. Dug into by J. G. Sanderson, Courtland, 1927.
La^v 25. Village. 700 feet wide and 1,000 feet long. It surrounds La^o 24.
These sites are on the bluff above the river opposite the lower end of Tick Island about 1.5 miles upstream from Wheeler Dam. These sites will not be flooded. On the old Miller place now owned by Mr. Hood Harris, of Courtland.
La^o 37. Mound. Excavated and reported.
La^c 39. Bluff shelter. Mouth 8 feet high and 12 feet wide. Contained two rooms, 25 feet by 50 feet. Excavated by Sanderson and later by Dr. Jones, of Alabama Museum, August 1933. Surface shows large quantities of shell beads—variety of forms. Some triangular flint points and some barrel-shaped beads, 1 inch in diameter, are shown in plate 111, *b*. Some shell-tempered potsherds, limestone disc, human teeth, and animal bones were also found.
La^c 40. Cave. Excavated and reported. These caves are in the bluff on the edge of river bottom about 1 mile upstream from upper end of Tick Island on the land of Hood Harris.
La^v 41. Village and workshop. 500 feet wide and about 1.5 miles long. In general shape of horseshoe. Surface shows flint spalls, turtle backs, cores, and rejects.
La^o 42. Mound. 3 feet high and 62 feet in diameter. Located on a hill about 60 feet above Big Head Spring, formerly excavated by Sanderson and now almost level. Surface showed one Folsom point (pl. 111, *b*).
Sites 41 and 42 are at the head of Spring Creek about 3 miles south of Gilchrist Island, on land owned by Mr. Ed Chardevoyne.

In Madison County, Ala.

[A total of 39 sites are listed]

Ma^o 1. Mound. Dug by Alabama Museum and reported. Surface material showed quartzite and pebble hammerstones, large quantities of shell-tempered pottery.
Ma^o 2. Mound. Earth, 20 feet high and 120 feet in diameter, at head of Island. See map 2.
Ma^o 3. Mound. Dug by Alabama Museum and reported.
Ma^o 4. Mound. Shell. Dug and reported by Alabama Museum.
Ma^o 5. Mound. Dug and reported by Alabama Museum.
Ma^v 6. Village. 75 feet by 160 feet on Hobbs Island, 0.75 mile from head of island on south bank.
Ma^o 7. Shell mound. 60 feet by 200 feet and 0.25 mile north of No. 6.
Ma^o 8. Shell mound. 3 feet high and 75 feet square, 0.75 mile from lower end of island.
Ma^o 9. Shell mound. 1 foot high and 60 feet square on lower end of island.
Sites 1 to 9 are located on Hobbs Island, belonging to R. E. Spragins, Huntsville, and J. D. Atkinson, of Birmingham.
Ma^v 10. Village. On mainland 0.25 mile below north end of Whitesburg Bridge. Skeleton found on site by Dr. Jones in 1931. Property of Lawson White, of Huntsville, Ala. Surface shows flint chips and broken projectile points. Some heavily serrated sherds of steatite vessels. Potsherds plain, heavily hole tempered.

Ma^{v} 11. Camp site. 300 yards west of the mouth of Indian Creek and 0.5 mile south of Triana on property of B. Rice. Surface shows small greenstone celts, projectile points.

Ma^{v} 12. Village. 0.5 mile south of Green Grave and 0.25 mile from river bank on land of Leo Schiffman & Co. Surface shows flint hammerstones, spalls, and rejects. Material crude. Flaking by concussion, no evidence of secondary chipping.

Ma^{v} 13. Camp site in river bottom, 1 mile east of Green Grave. Surface shows flint spalls and rejects of blue chert, very crude. Turtle backs and cores, projectile points crude and broken.

Ma^{v} 14. Camp site. 200 feet along river bottom, 0.5 mile below Site 13 on river bank. Surface shows flint spalls and rejects from bedded flint.

Ma^{c} 15. Bluff shelter. In bluff 50 feet above water, 0.5 mile above Ma^{v} 13. Local residents report a fisherman dug into this shelter and removed one skeleton and some ten clay vessels and shell artifacts.

Ma^{v} 25. Village. 50 feet by 250 feet on a ridge on the river terrace, 1 mile northwest of Green Grave on property of J. E. Davis. Surface shows small greenstone celts, greenstone chips, chert spalls, badly broken pottery, hole tempered; some gravel tempered, plain and combed surfaces.

Ma^{v} 26. Village. 50 feet by 800 feet. Begins 100 feet from west limits of Ma^{v} 25 on land belonging to Nick Fitchet (colored).

Ma^{v} 27. Village. 50 feet wide, begins 100 feet west of northern extremity of Site 26 and extends 720 feet west along river bank on land of Nick Fitchet (colored).

Ma^{v} 28. Camp site. 200 feet north of north bank of river and flooded during high water. 600 feet east of the dry slough 2.5 miles above Triana, Ala. Surface shows spalls of blue chert and quartzite. Projectile points crude. One finely chipped triangular point.

Ma^{v} 29. Village on rolling ridge running E.-W. about 0.25 mile north of Ma^{v} 28 and above high water. Both of these sites are on the estate of D. A. Penland, formerly of Huntsville. Surface shows quantities of crude chert broken by concussion.

Ma^{v} 30. Camp site. On ridge on the north bank of river about 1 mile below Site 28 on Penland estate.

Ma^{o} 31. Mound. 6 feet high and 40 feet in diameter on river bottom.

Ma^{o} 32. Mound. 10 feet high and 75 feet by 105 feet on river adjacent to Site 31.

Ma^{v} 33. Village. 200 feet wide and 0.5 mile due west of Mound Ma^{o} 31. Surface shows flint cores, broken flint disk 5 inches in diameter, and blue chert spalls 1.25 inches thick. Thin gravel-tempered plain pottery.

These sites are 1 mile below Whitesburg Bridge on the property belonging to Josh Walling, of Huntsville.

Ma^{v} 34. Village. 150 feet by 100 feet along river bank. 15 feet higher than river. Located opposite Cotaco Landing on land belonging to John Rountree, of Madison, Ala. Surface shows snail shells and flint chips, gravel-tempered pottery, mostly plain, some combed.

Ma^{o} 35. Mound. 5 feet high and 75 feet by 100 feet. Has irregular shape. 250 feet from river bank on east edge of slough on property of Eddie Harris (colored). Surface shows snail shells, flint chips, gravel-tempered pottery, mostly plain, some stamped.

Ma^{v} 36. Village site. About 2 acres, 100 feet from river bank on natural knoll with slight rise above river bottom. Located 0.5 mile below Site 34 on farm of Fowler brothers, of Huntsville. Surface shows snail shells and chips, thin potsherds, hole tempered, small pieces, some plain gravel tempered.

Ma^{c} 37. Mound. Shell. 3.5 feet high and 75 feet by 85 feet. 50 feet from water edge. Surface shows snail shells, flint chips, gravel tempered, plain, combed and cord impressed.

Ma^{o} 38. Shell mound. Dimensions 2.5 feet by 10 feet by 15 feet. Surface shows same as Site 37.

Ma^{o} 39. Shell mound. 3 feet high and 25 feet by 50 feet, on river bank. Surface shows same as Site 37.

Ma^{c} 40. Shell mound. 3 feet high and 25 feet by 100 feet on river bank. Surface shows same as Site 37.

Ma^{v} 41. Village. Adjoining Sites 37, 38, 39, and 40. Site 37 is 3.5 miles below Triana, opposite Bluff City. Site 38 is 225 feet east of Site 37. Site 40 lies halfway between 37 and 38. Site 39 is 15 feet southwest of 37. This group of sites is on the property of Mrs. W. M. Hopper, of Madison, Ala., R. No. 3. Sites excavated by C. B. Moore, 1915.

Ma^{v} 42. Village site. 150 feet by 600 feet. Built up about 4 feet by accumulated debris. Site follows along river bank and is bounded on east by Blockwell Spring Branch, 0.25 mile west of Ma° 37, on the property of Mrs. W. M. Hopper. Excavated by C. B. Moore.

Ma^{v} 43. Camp site. 25 feet by 50 feet on sloping river bank 1 mile west of Ma^{v} 42 on land of Mr. Simpson McKee.

Ma^{v} 44. Village. 300 feet by 2,600 feet on very high bank of river between Triana and Paint Rock, 0.5 mile east of mouth of Flint River on property of C. A. Cloud, of New Hope, Ala. Surface shows shell-tempered potsherds, hole-tempered and gravel-tempered. Surfaces plain, combed, rims straight. A few sherds, stamped impressions almost obliterated.

Ma^{v} 45. Village. 1 acre, 0.25 mile east of Ma^{v} 44 on property of C. A. Cloud.

Ma^{v} 46. Village. 150 feet by 300 feet. 1 mile up river from Site 45 and 0.25 mile east of Clarksville Landing on Richardson Place, now Federal property. Surface shows chipped flint celts, sherds of heavy steatite vessels, unfinished and broken projectile points, mostly blue chert. Some quartzite (pl. 115, *b*).

Ma^{v} 47. Camp site 25 feet by 50 feet on river bank. 20 feet high on west side of mouth of Paint Rock River.

Ma^{c} 48. Shell mound. 200 feet by 500 feet and 8 feet deep. Located on west bank of Flint River, at its mouth (pl. 112, *a*).

IN MARSHALL COUNTY, ALA.

[A total of 78 sites are listed]

Ms^{v} 1. Village. 1 acre, on east bank of Paint Rock River on the property of Mrs. Hale, of Scottsboro; called the old Dr. Hines place.

Ms^{v} 2. Village. 150 feet by 300 feet. About 50 feet from river edge, 1.75 miles up the river from Ms^{v} 1 on the property of W. R. Keller, Grant, Ala., R. No. 1. Surface shows gravel-tempered potsherds, plain surfaces, red slip. Some showing cord textures nearly obliterated, small evidences of combing. Flint chips, some quartzite, flint cores.

Ms^{v} 3. Village. 100 feet by 200 feet on river bank 25 feet above water level. 3.25 miles upstream from mouth of Paint Rock River. Surface shows shells, pebble hammerstones, and hole-tempered pottery.

Ms^{v} 4. Village. 75 feet by 125 feet, 150 feet from river on slight rise on bank which is 15 feet above water level. Surface shows large quantities of shell- and gravel-tempered thin pottery, plain and combed surfaces.

Ms^{v} 5. Village. 150 feet by 600 feet. 450 feet east of Ms^{v} 4 on river bank. 20 feet high. Surface shows shells, flint chips, very small potsherds, gravel tempered.

Ms^{c} 6. Camp. 75 feet by 100 feet. 450 feet east of Ms^{v} 5 and 100 feet from river bank. Surface shows snail shells, gravel tempered plain pottery—some stamped.

Ms^{v} 7. Village. 350 feet by 810 feet. On elevation 25 feet above river, 0.25 mile upstream from Ms^{c} 6. Surface shows snail and mussel shells, potsherds, gravel tempered, plain surface, some combed.

Ms^{v} 8. Village. 150 feet by 900 feet. 600 feet east of Ms^{v} 7 and 75 feet from river bank on same ridge.

Ms^{v} 9. Village. 75 feet by 100 feet and 900 feet east of branch emptying into river and 0.25 mile east of Ms^{v} 8. Surface shows potsherds, gravel and hole tempered, plain.

Ms^{v} 10. Village. 150 feet by 400 feet, on river bank 0.75 mile east of Ms^{v} 2. Surface shows snail shells, potsherds badly broken, plain and gravel-tempered pottery.

Ms^{v} 11. Village. 150 feet by 300 feet. On river bank 600 feet east of Ms^{v} 10. Surface shows same as Ms^{v} 10, also some mussel shells.

Ms^{v} 12. Village. 125 feet by 325 feet on river bank, 450 feet east of Ms^{v} 11. Surface shows snail shells, pebble hammerstones, gravel-tempered pottery, plain stamped and stone.

Ms^{v} 13. Village. 125 feet by 325 feet on river bank and halfway between Ms^{v} 3 and Ms^{v} 12. 0.25 mile from each.

Sites 3 to 13 are on a levee-like ridge which extends along the north side of the Tennessee River for about 3.5 miles on the property of Walter Lusk, of Fearns Quarter, Ala. This area is known locally as Wild Goat Cove, which is at Fearns Quarter. This ridge is cut in several places by drainage to the Tennessee River.

Ms^{v} 14. Camp site. 150 feet by 300 feet on bank 900 feet west of the Guntersville Ferry Landing. Surface shows projectile points (pl. 116).

Ms^{v} 15. Village. 125 feet by 225 feet and 120 feet from river bank. 28 feet above river level, 1.5 miles below Ferry Landing on the property of LaFayette Stearnes. Surface shows human bone, potsherds, hole tempered and plain surfaces.

Ms^{v} 16. Village. 125 feet by 50 feet. Elevated about 4 feet above river. 0.25 mile west of Ms^{v} 15 on farm of Joe McDonald, of Guntersville. Surface shows mussel shells, flint chips, hole-tempered pottery, human bones.

Ms^{v} 17. Village. 75 feet by 90 feet. 900 feet east of Ms^{v} 15 and 100 feet from river bank on property of LaFayette Stearnes. Surface shows flint chips badly broken, gravel tempered and plain pottery.

Ms^{v} 18. Village. 93 feet by 72 feet. Flat land 300 feet east of Ms^{v} 17. 150 feet from river on Stearnes place. Surface shows one 4-inch flint knife. Potsherds, plain and combed surface.

Ms^{v} 19. Village. 100 feet by 300 feet. Flat land 200 feet from river on bank 15 feet high and 1 mile west of Ms^{v} 16, on property of Joe McDonald. Surface shows mussel and snail shells, broken projectile points of blue flint (pl. 116).

Ms^{v} 20. Village. 2 acres on upper tableland above river. Surface shows greenstone celt, broken and flint chips.

Ms^{v} 21. Village. 1 acre on river bank, 75 feet from river. Surface shows shells.

Ms^{o} 22. Mound. Surface shows flint chips.

Ms^{o} 23. Mound. Surface shows galena.

Ms^{o} 24. Mound.

Ms^{o} 25. Mound.

Ms^{o} 26. Mound.

Ms^{o} 27. Mound.

Ms^{o} 28. Mound. Surface shows flint points.

See plat Roden Mounds. Sites 21 to 28 are on the property of Bed Roden, 2.5 miles above Guntersville Bridge. These were explored by C. B. Moore in 1915.

Ms^{v} 29. Village. About 2 acres, 0.5 mile east of Guntersville Bridge and 300 feet from river bank. Surface shows green celt, steatite sherds, flint chips, copper beads. Sherds broken into very small pieces, paddle marked and plain.

Ms^{v} 30. Village. 75 feet by 225 feet, 300 feet west of Site 29 and on same elevation with slight depression between the two sites. Mr. Tom Seibold dug up one skeleton in stone grave with quantities of shell beads. Surface shows greenstone spades, broken celts, flint chips and cores, broken cannel coal, pottery gravel tempered and plain. Combed marking, some marked with red slip, few straight rims with beading 0.25 inch below. Two sherds textile impressed—very fine weave.

Ms^{v} 31. Village. 1 acre, 0.25 mile from river on east bank of creek. Separated from Ms^{v} 30 by ditch draining into creek. Sites 29, 30, and 31 are on property of Tom Seibold, Guntersville, and are on river bank about 1 mile above the Guntersville Bridge. Known as McKee place.

Ms^{v} 32. Village. On McKee Island, about 0.5 mile long. At upper end it is 300 feet wide and at lower end it is about 90 feet wide. C. B. Moore obtained stone graves at this site in 1915. On property of Tom Seibold (pl. 116).

Ms^{v} 33. Village. Surface shows lapstones made from a sandstone pebble, fine-grain celts of sandstone, mussel and snail shells, plain pottery, gravel tempered, plain rim, strapped handles. Few sherds showing red slip inside and out. Textile marking. On rim with row of beading below 0.25 inch.

Ms^{v} 37. Village. 150 feet by 225 feet, on river bank, 150 feet west of Caperton Landing and 25 feet from river edge. Bank is 12 feet high. Property of Dr. T. C. Harris, of New Hope. Surface shows animal bones, gravel-tempered plain pottery, broken sandstone discoidal.

Ms^{v} 38. Village. 350 feet wide. Begins on river bank south of Columbus City Landing and extends down the river for about 1,300 feet on property of S. J. Walls. Surface shows iron ax of unusual form, flint chips, broken potsherds. Some shell but mostly gravel-tempered sherds.

Ms^{v} 39. Village. 600 feet east of Ms^{v} 38 on river bank. On property of P. H. Kanmer, Columbus City.

Ms^{v} 40. Village. 150 feet by 300 feet, 0.5 mile below Columbus City Landing, 75 feet from river bank which is 35 feet high. On property of Charles Neslie, who lives on the place.

Ms^{v} 53. Village. 25 feet by 180 feet, on high point of river bank, 0.75 mile above head of Henry Island.

Ms^{v} 54. Village. 85 feet by 250 feet on bank of slough at head end of Henry Island between river and mouth of Town Creek. Surface shows broken potsherds, gravel tempered and plain.

Ms^{v} 55. Village. 126 feet by 175 feet on river bank 0.25 mile above Ms^{v} 53. Surface shows broken potsherds, gravel tempered, plain.

Ms^{v} 56. Village. 95 feet by 123 feet on same ridge as Ms 55^{v} and slightly higher than river bank. Surface shows potsherds, gravel tempered, plain.

Ms^{v} 57. Village. 135 feet by 345 feet. 600 feet above Ms^{v} 56 and on same ridge. Surface shows pebble hammerstones, animal bones, gravel-tempered potsherds, few stamped.

Sites 53 to 57 are located on the Henry farm, owned by W. G. Henry, of Guntersville, Ala.

Ms^{v} 58. Village. 80 feet by 250 feet on Henry Island, 1.5 miles east from the lower end and on the river side of the island.

Ms^{v} 59. Village. 80 feet by 175 feet, on the upper portion of the island (called a mound by C. B. Moore). Surface shows gravel-tempered potsherds, plain, badly broken.

Ms^{o} 60. Mound. 9 feet high and 80 feet square. Truncated pyramid and surrounded by Ms^{v} 59. Henry Island is property of Bryant Henry, of Guntersville.

Ms^{o} 61. Mound. 12 feet high and 230 feet by 200 feet. Truncated pyramid 100 feet from river bank at Gunters Landing. At the point where N. C. & St. L. R. R. ferry lands. On property of Green Seibold, Guntersville, Ala.

Ms^{v} 62. Village. 123 feet by 147 feet on river bank, 0.75 mile below Ms^{o} 60 on property of Henderson Land Development Co., of Guntersville. Surface shows mussel and snail shells, steatite sherds, flint spalls, small quantity of gravel-tempered pottery.

Ms^{v} 63. Village. 36 feet by 75 feet on high point of river bank. 2.25 miles below Guntersville on property of Henderson Land Development Co. Surface shows chunks of blue chert.

Ms^{o} 64. Mound. 4 feet high and 15 feet in diameter, on W. G. Jordon's place about 5 miles down river from Guntersville at the old town of Manchester. This mound excavated by Neal Brother in 1905, who found skeletons and artifacts.

Ms^{v} 65. Village. 80 feet by 210 feet and 100 feet from river bank. 0.75 mile east of Ms^{o} 64. Surface shows blue chert chunks, potsherds, practically disintegrated; leaf-shaped blades, stemless.

Ms^{v} 66. Village. 110 feet by 320 feet and 100 feet from river on ridge and 150 feet up river from Site 65. Surface shows hole-tempered pottery, some gravel-tempered.

Ms^{v} 67. Village. 130 feet by 295 feet on river at mouth of slough and 0.5 mile north of slough and 0.25 mile below the old Ford Deposit Ferry Landing. Surface shows chert, blue; chunks, gravel-tempered plain sherds, a few stamped sherds.

Sites 64 to 67 are all on property of W. G. Jordon, of Guntersville, Ala.

Ms^v 68. Village. 100 feet by 240 feet. 2 miles north of Beard, Ala., on river bank on highest point of the bottom land. Surface shows gravel-tempered plain sherds, few showing combed impressions.

Ms^v 69. Village. 130 feet by 260 feet on river bank, 1 mile up river from Ms^v 68 and 1 mile below Ms^v 67.

Sites 68 and 69 are on property of A. M. Ayres, of Guntersville, Ala.

Ms^v 70. Village. 140 feet by 425 feet, 0.25 mile below Site 68 on river on property of Mrs. Ira Ramsey, of Lebanon, Tenn. Surface shows gravel-tempered plain sherds, much broken.

Ms^v 71. Camp. 25 feet by 85 feet, 1 mile above mouth of Shoal Creek. On river bank on property of Roberts & Martin, of Guntersville.

Ms^f 72. Workshop. About 1 acre on red hill between the mountains and the river about 1 mile from river on property of C. L. Howland, of Guntersville. Surface shows broken greenstone celts, blue chert cores, and rejects.

Ms^v 73. Village. 45 feet by 105 feet. 150 feet from river at Blue Rock Landing. Residents dig into this village for shells for chicken feed and have disturbed a number of burials. Surface shows animal bones, gravel-tempered plain potsherds.

Ms^v 74. Village. 85 feet by 100 feet on upper side of road leading to Blue Rock Landing. Surface shows animal bones, gravel-tempered sherds, flint chips.

Ms^v 75. Village. 35 feet by 80 feet on river bank on upper side of Blue Rock Landing. Surface shows gravel-tempered sherds.

Ms^v 76. Village. 95 feet by 110 feet on river bank at lower side of landing. Surface shows human bones.

Ms^f 77. Workshop. 1 acre on small round hill. 150 feet from river and 0.25 mile below Ms^v 76 at Parches Cove. Surface shows mussel shells and snail shells. Large quantities of flint rejects, greenstone flakes, rose quartz, a few finished projectile points.

Ms^v 78. Village. 93 feet by 132 feet on river bank 0.25 mile below Site 77. Surface shows potsherds, gravel-tempered, small.

Ms^v 79. Village. 72 feet by 120 feet on edge of river, 900 feet down river from Site 78. Surface shows blue flint chips, hole-tempered pottery, plain and stamped.

Ms^v 80. Village. 135 feet by 200 feet. About 75 feet from river bank and 300 feet down river from Site 79, separated from it by slight depression. Surface shows blue flint rejects, gravel-tempered plain sherds.

Ms^v 81. Camp. 25 feet by 36 feet on river bank 150 feet from Ms^v 80. Surface shows shells badly broken up.

Sites 73 to 81 are on the property of Gus May, of Guntersville.

Ms^v 82. Camp. 36 feet by 36 feet on river bank about 100 feet from Site 87. Surface shows shells.

Ms^v 83. Village. 80 feet by 120 feet on small knoll on river bank about 100 feet from Ms^v 82.

Ms^v 84. Village. 40 feet by 60 feet, 150 feet from river bank and 200 feet below Site 83. Surface shows hole-tempered plain pottery.

Ms^v 85. Village. 100 feet by 160 feet. 75 feet from river and 100 feet below Site 84. Surface shows gravel-tempered plain and stamped-impressed potsherds, flint and quartzite cores.

Ms^v 86. Village. 150 feet by 85 feet on edge of river bank and separated from Site 85 by a slough. Surface shows gravel and hole-tempered plain pottery.

Ms^{v} 87. Village. 270 feet by 420 feet. On river bank about 900 feet east of Ms^{v} 86. Cave-in to river exposed bank of shell 3 inches thick. Surface shows large quantities of hole-tempered and gravel sherds, some deeply stamped diamond and square mesh (pl. 116).

Ms^{v} 88. Village. 60 feet by 110 feet, 150 feet from river bank. Surface shows gravel and hole-tempered plain pottery, hammerstones.

Ms^{v} 89. Village. 60 feet by 90 feet and 175 feet from river bank. Surface shows small greenstone celt, broken; hole-tempered plain pottery, flint chips. Village is up river from Ms^{v} 88.

Ms^{v} 90. Village. 80 feet by 156 feet. 150 feet from river bank. Surface shows gravel-tempered plain pottery, blue flint rejects. Village is 110 feet up river from Ms^{v} 89.

Ms^{v} 91. Village. 110 feet by 290 feet. 150 feet from river bank and 175 feet up river from Ms^{v} 90. It is on south bank of river directly opposite mouth of Paint Rock River. Sites 88 to 91 are on a long ridge on the property of Raymond Thompson, of Sweetwater, Tenn., and locally known as Bean Rock. Surface shows chip limestone, spades, gravel and hole-tempered plain pottery, some combed and stamped (pl. 116).

Ms^{v} 92. Camp. 45 by 120 feet on river bank, ⅛ mile below Old Clarksville Landing on property of Mrs. Emma Lynn.

Ms^{v} 93. Village. 110 feet by 205 feet on river bank at Black's Landing. Most of the site is on upper part of the Landing on property of M. G. Jetton.

In Morgan County, Ala.

[A total of 50 sites are listed]

Mg^{o} 1. Mound. 20 feet by 162 feet in diameter. 500 feet from river on a high bank, on estate of W. R. Smith, within the city of Decatur. Surface shows large quantity of deeply colored flint spalls, blue, reds, and pinks. Broken flint scrapers and knives.

Mg^{v} 2. Excavated and reported. Surface shows large quantity of highly colored flint spalls and rejects. All this flint concretionary. Gravel-tempered pottery, cord paddled (pl. 115, *a*).

Mg^{v} 3. Village site. 150 feet wide and 460 feet long on east bank of Flint Creek at its mouth. Surface shows large quantities of light-blue flint spalls and cores. Large quantities of gravel-tempered stamped ware, diagonal mesh, also cord-paddled pottery and some plain steatite fragments. One broken pottery pipe with bowl 3 inches in diameter. Mussel and snail shells.

Mg^{o} 4. Mound. 6 feet by 100 feet in diameter, adjacent to village sites 3 and 4 are on the estate of Mamie Gilchrist, of Courtland. Will be inundated. Skeletons have been reported as washed out during river floods. Surface shows gravel-tempered plain pottery, also cord impressed. Flints and mussel shells.

Mg^{o} 5. Shell mound. 50 feet wide and 100 feet long, on river bank near Crowtown opposite mouth of Limestone Creek. On property of Jim Crow, of Decatur. Surface shows some gravel-tempered plain and some cord-impressed pottery. Flints and mussel shells.

Mg^{o} 6. Mound. 4 feet high and 75 feet in diameter, about 1.5 miles east of Mg^{o} 5. On property of S. H. Brady, who lives at the mouth of Limestone Creek.

Mg^{v} 7. Village. 75 feet wide and 1,250 feet long. Surface shows animal bones, mussel shells, large quantities of flint chips, large amount of pottery mostly plain gravel tempered, some cord-impressed and about one-fourth stamped ware, rims plain, stamping deeply impressed. A few sherds show deep impression and subsequent smoothing. One 4.5-inch celt of flint (pl. 113, *a*).

Mg^{o} 8. Shell mound. 75 feet wide and 150 feet long. Sites 7 and 8 are about 1 mile below Cains Landing, on the property of Dr. M. A. Dinsmore, of Decatur.

Mg^{v} 9. Village. 120 feet wide and 1,150 feet long, on ridge on river bank, 0.5 mile below Bluff City on the property of Mr. Morris. Surface shows hammerstones, large quantities of dark-blue concretionary flint, broken by concussion. One sherd was shell-tempered, reed-texture marked.

Mg^{v} 10. Village. 200 feet wide and 500 feet long. Accumulation of debris has a depth of 2 feet. In river bottom but banks are above high water. Surface shows greenstone celts; also limestone. Large quantities of projectile points and knives, mostly of dark-blue flint, variety of forms as represented in plate 113, *b*.

Mg^{v} 11. Village 0.5 mile east of Mg^{v} 10. 200 feet wide and 750 feet long on ridge. Surface shows pestles rough pecked to form; flints, rejects, and spalls.

Mg^{v} 12. Village. 300 feet wide and 250 feet long. Debris 3 feet deep. Sites 10, 11, and 12 are near the Whitesburg Bridge on the property of Jim Vaughn, of Whitesburg. Skeletons have been plowed up on these sites. Surface shows large quantities of small flint points, mostly broken, and potsherds, plain gravel-tempered.

Mg^{v} 13. Shell bank. 175 feet by 525 feet in river bottom, 0.75 mile up river from Mg^{v} 12.

Mg^{v} 14. Village. 165 feet wide and 375 feet long. General shape of ridge 0.25 mile upstream from Mg^{v} 13. Small quantity of plain gravel-tempered sherds, very hard.

Mg^{o} 15. Shell mound. Conical, 2 feet high and 175 feet in diameter in river bottom, upstream 0.25 mile from Mg^{v} 14. Surface shows flint cores and broken points, hammerstones, gravel-tempered sherds, surface smooth by combing with blunt comb. A few sherds hole-tempered.

Mg^{v} 16. Shell bank. 100 feet by 150 feet in river bottom about 0.25 mile upstream from Mg^{o} 15.

Mg^{v} 17. Shell bank. 300 feet by 400 feet about 1 foot higher than soil of river bottom and upstream from Mg^{v} 16. Sandstone hoe found on surface.

Sites 13 to 17 are on the property of R. A. Parsons, of Taylorsville, and are located on the mainland opposite the center of Hobbs Island.

Mg^{v} 18. Village. 500 feet wide and 3,000 feet long on river bank, 1 mile above Triana Ferry Landing on the property of Mr. Carter, of Carter Shoe Co., of Nashville, Tenn. Surface shows large quantities of crudely chipped flint knives, flint hammerstones. Large quantities of coarse texture, gravel and hole tempered, plain sherds. A few showed combing and a few square stamped. In all cases surface marking was nearly obliterated by smoothing (pl. 115, *a*).

Mg^{v} 19. Village. Slightly smaller than 18 and also at the Triana Ferry Landing. Surface shows flint spalls and rejects; spalls large, of greenstone, made by concussion. Plain gravel-tempered pottery.

Mg^{f} 20. Workshop. 75 feet by 100 feet on a high ridge about 0.25 mile from river at Cains Landing on land of Meyers and Spencer. Surface shows small quantity of white chert spalls.

Mg^{o} 21. Shell mound. 3.5 feet high, 100 feet wide, and 250 feet long, on river bank at Cains Landing; has a residence built on it on the property of Meyers and Spencer. Surface shows small quantity of hard-burned gravel-tempered coarse-texture pottery, stamped with square and diamond mesh.

Mg^{v} 23. Village. 160 feet by 315 feet on a slight ridge back of river bank. Surface shows flint spalls, knives, and points.

Mg^{f} 24. Workshop. 150 feet wide and 600 feet long, adjacent to Site 23 in river bottom and about 1 mile downstream from Decatur. Both are on the property of John Penny, of Birmingham. Surface shows large quantity of crude flint spalls, highly colored, blue, red, white, and black. Projectile points have stems with parallel sides and straight base. Few fragments of greenstone spalls (pl. 115, *a*).

Mg^{v} 26. Village. 120 feet by 455 feet on ridge in river bottom near Finley Landing. Surface shows small quantity of gravel-tempered cord-impressed sherds.

Mg^{v} 28. Shell mound. 3 feet by 90 feet in diameter and about 0.25 mile from Site 26.

Mg^{f} 29. Flint workshop. 500 feet by 100 feet long, surrounding Sites 28 and 30. Surface shows fragmentary projectile points and small broken greenstone celts. Quite thin chipped and polished.

Mg^{o} 30. Shell mound. 8 feet by 20 feet. Sites 28, 29, and 30 are on the hill above the river bottom land, 0.25 mile back from the river at Finley Landing on the property of Mrs. Field Pointer. Surface shows crude spalls and rejects. Concretionary flint.

Mg^{v} 31. Village. 300 feet by 900 feet on hills above river bottom, mainland 0.25 mile from river opposite lower end of Byrds Island on the land of Miss Lizzie Neville. Surface shows hammerstones, flint cores, and spalls, broken points; wide variety of materials, mostly crude and concretionary.

Mg^{v} 32. Village. 205 feet by 645 feet, above river bottom, 0.5 mile west of Site 31, on the Peck place near the River View School. Surface shows greenstone spades, hammerstones, flint cores, and spalls, broken points; wide variety of materials, mostly crude, concretionary.

Mg^{v} 39. Village. 255 feet wide and 10,708 feet long on low ridge 4 feet high on east bank at mouth of Cotaco at Cotaco Landing. On property of John Winstone, of Hartselle. Surface shows number of sandstone and limestone spades. Flint spalls, rejects, also greenstone spalls and quartzite. Large quantities of potsherds, gravel-tempered, many plain. Decorations include stamped small and large squares, cord-wrapped paddled, textile-impressed and combed surfaces. Fragmentary two-hole limestone gorgets. Rims of pottery plain (pl. 113, *a*).

Mg^{v} 40. Village. 45 feet by 200 feet, low ridge on river bank on west side of Cotaco Creek at its mouth, on property of Peter Draper. Surface shows small quantity of flint chips, pottery, and potsherds, gravel-tempered, plain rim, and combed surface.

Mg^{v} 41. Village. 100 feet by 200 feet, on river bank 1.25 miles below Triana Ferry Landing.

Mg^{v} 42. Village. 200 feet by 1,100 feet and 0.25 mile upstream from Mg^{v} 41. Both sites are on the Talley place. Surface shows potsherds, plain, hole-tempered.

Mg^{o} 43. Mound. 8 feet high and 50 feet in diameter on river bottom above high water. Dug by Moore in 1915. (Mound A of Moore, pp. 277). Surface shows potsherds, plain, hole-tempered.

Mg^{o} 44. Mound. 6 feet 7 inches high and 35 feet in diameter in vicinity of No. 43.

Mg^{v} 45. Village. 175 feet by 245 feet on low ridge in river bottom. Surface shows small flint chips and flint hammerstones.

Mg^{f} 46. Workshop. 300 feet by 300 feet on hill overlooking Site 45. Surface shows small quantity of small flint chips.

Mg^{v} 47. Shell ridge. 5 feet high, 480 feet by 525 feet, and lies in river bottom, 0.5 mile up river from Site 45. Surface shows hammerstones, flint chips, pottery, plain, rims hard-burned, quite thin, being three-sixteenth inch or less. Deeply combed or stamped, diamond stamped (pl. 113, *a*). Sites 43 to 47 are on the property of M. M. Crowder at Slaughters Landing, 1.5 miles above Triana Ferry Landing.

Mg^{v} 48. Village. 200 feet by 400 feet. On a low hill in river bottom just east of Johnson's Landing on the property of Ernest Lynn, of Birmingham. Surface shows large pestles, crude flint cores, large quantity of knives and rejects; spalls appear to have been produced from flint. Projectile points and scrapers generally broad (pl. 115, *a*).

Mg^{v} 49. Village. 40 feet by 115 feet on river bank 0.25 mile east of Johnson's Landing on the property of M. M. Crowder.

Mg^{v} 50. Village. 190 feet by 350 feet on river bank, 0.5 mile west of Plymouth Rock Landing. Surface shows large limestone hoes, fragments of greenstone and steatite, some flint crude spalls and rejects, potsherds, plain, hole and gravel tempered, some combed.

Mg^{v} 51. Village. 125 feet by 125 feet on river, 0.5 mile east of Plymouth Landing.

Mg^{v} 52. Village. 120 feet by 125 feet on river 0.5 mile east of Leman Ferry. Surface shows pebble hammerstone, flint chips, and tiny potsherds.

Mg^{v} 53. Village. 150 feet by 350 feet, 0.25 mile up river from Site 52.

Mg^{v} 54. Village. 160 feet by 320 feet begins 465 feet east of Plantation Road, River Landing. Surface shows few potsherds, gravel tempered and plain sherds.

Mg^{v} 55. Village. 105 feet by 315 feet. 2 miles below Whitesburg Bridge. Surface shows large number of limestone and sandstone chipped celts, flint hammerstones, broken granite celts, small projectile points. Some potsherds, gravel and hole tempered, thin walled and plain rims, pottery trowel (pl. 113, *b*).

Mg^{v} 56. Village. 105 feet by 280 feet. In river bottom on low ridge and 1.5 miles below Whitesburg Bridge. Surface shows small quantity of badly broken flint chips.

Mg^{v} 57. Village. 100 feet by 220 feet. Flat site in river bottom. Surface shows gravel-tempered sherds, plain and combed surfaces.

Mg^{v} 58. Village. 250 feet by 150 feet in bottom land on east bank of slough. Both Site 57 and Site 58 are on the property of Jack McCutcheon. 1 mile below Whitesburg Bridge.

Mg^{v} 60. Village. 100 feet by 200 feet on river bank which has been partly excavated for fill on highway bridge at south end of Whitesburg Bridge.

IN LIMESTONE COUNTY, ALA.

[A total of 36 sites are listed]

Li^{c} 1. Cave. Mouth 3 feet by 12 feet with depth of 100 feet at bottom of bluff (pl. 114, *a*, *b*).

Li^{v} 2. Village. On top of bluff, 40 feet above water level in Tennessee River.

Li^{c} 3. Cave. Mouth 15 feet by 3 feet and 75 feet deep. Located at bottom of bluff.

Li^{c} 4. Cave. Mouth 25 feet by 200 feet and 100 feet deep. Located at bottom of bluff.

Li^{c} 5. Cave. Mouth 3 feet by 6 feet and 10 feet deep. Entrance 25 feet above ground.

Li^{c} 6. Cave. Mouth 2 feet by 2 feet and 8 feet deep. Entrance 20 feet above ground.

Li^{c} 7. Cave. Mouth 3 feet by 2 feet. Shallow at bottom of bluff.

Li^{c} 8. Cave. Mouth 6 feet by 2 feet. Shallow at entrance 20 feet above ground.

Li^{c} 9. Cave. Mouth 10 feet by 3 feet and 50 feet deep at bottom of bluff.

Li^{c} 10. Cave. Mouth 3 feet by 6 feet and depth of 3 feet at bottom of bluff.

Li^{c} 11. Cave. Mouth 3 feet by 4 feet and depth of 3 feet at bottom of bluff.

Sites 1 and 3 to 11 are rock shelters in a limestone bluff on the Tennessee River, 5 miles southeast of Mooresville. This bluff varies from 60 feet in height on the east end to 45 feet in height on west end.

All of these sites show evidence of occupation by the presence of residual debris. Two springs flow from the base of this bluff. The shelters are not dry. This bluff is on the property of Frank M. Burnam, of Belle Mina, R. R. No. 1.

Li^{v} 2 is a village on top of this same bluff which has yielded flint projectile point, boatstones, discoidals, and greenstone spades.

Li^{v} 12. Camp site on same bluff as Li^{v} 2. 150 feet from river bank and 0.75 mile downstream on the Tennessee River.

These sites will not be inundated.

Li^{v} 13. Village. 150 feet by 400 feet, along the river and about 50 feet distant from it. The bank is about 15 feet at this place so that this site will be covered by back water. It is on the property of W. Sanders, of Decatur, and is immediately opposite the city. Surface shows hammerstones and sand-tempered potsherds, much broken.

Li^{c} 14. Shell mound. Pyramid truncated, 6 feet high and 80 feet wide by 135 feet long. Surface shows shell, sand, and gravel tempered sherds, much broken. A few cord-wrapped paddled and stamped and one rectangular stamped impressed were found. The long side is parallel to river for a distance of 100 feet and on a terrace which slopes up from the river to a height of 25 feet.

Li^{v} 15. Village. Surrounds the shell mound and extends about 900 feet along the river and is 150 feet wide. Will be inundated. Surface shows large amount of pottery, some shell tempered, coarse texture, plain. Also plain ware, hole tempered. Most sherds were plain but there were a few stamped, cord paddled, rims, plain and undecorated. Same thickness as vessel. Stamped ware both diamond and rectangular mesh.

Li^{v} 16. Village. About 1 acre and about 0.5 mile up Tennessee River from Li^{v} 15. These sites are 3 miles east of Decatur and on the opposite side of the river on the farm of Pearl Gay, of Scottsboro, Ala.

Li^{o} 17. Mound. Earth. 6 feet by 60 feet by 200 feet long. Surface shows heavy spalls of blue flint cores and rejects. Small quantity of plain hole-tempered pottery; some having sand-tempered plain rims.

Li^{v} 18. Village. 100 feet wide by 150 feet long, adjoining Li^{o} 17. Surface shows flint spalls, mostly showing conchoidal fracture.

Li^{v} 19. Village. 75 feet by 150 feet and is 0.75 mile below Li^{v} 18. Surface shows gravel-tempered plain and cord-impressed pottery. Sand-tempered stamped ware, some shell and flint chips.

These three sites are on the old Steel place owned by Charles Wade, of Decatur. The nearest one is 1 mile west of the city on the opposite side. These will be inundated.

Li^{o} 20. Earth mound. 20 feet high, 175 feet diameter and is 100 feet from the river at the head of Byrds Island.

Li^{o} 21. Earth mound. 3.5 feet high, 25 feet wide and 50 feet long, located 100 feet east of Li^{o} 20. Badly eroded.

Li^{v} 22. Village. On river bank at lower end of Byrd's Island. 400 feet wide, 150 feet long, parallel to river. This is on the property of Nel Gilbert and will be flooded. Surface shows snail shells and pottery, mostly plain sherds, gravel tempered and some cord paddled.

Li^{v} 23. Village. 3 acres in extent on high bluff, 25 feet above river. Surface shows plain sand-tempered pottery, mussel shells, and snail shells.

Li^{v} 24. Camp site on same bluff. 6 acres in extent. These sites are on the property of Bruce Nelson, of Athens, on the mainland opposite lower end of Mason Island. The surface shows a greenstone celt, flint knives, and projectile points.

Li^{o} 25. Mound. 4 feet high and 70 feet in diameter. Surface shows flint chips of blue and light gray flint, crudely chipped.

Li^{v} 26. Village. 150 feet wide and 450 feet long. Surface shows a slightly damaged discoidal 4 inches in diameter, concave; chips of blue flint, a small quantity of gravel-impressed pottery.

Li^{v} 27. Village. About 1 acre in extent. 300 feet from river and 900 feet west of Decatur-Athens highway and immediately opposite Decatur on property of M. Spencer. It will be inundated. Skeletons have been located by owner in digging post holes.

Li^{v} 28. Village. 1 acre in extent. Midden deposit of shells and debris about 2 feet deep. Ground is white with plowed-up shells. It is 2 miles from the head of the slough on Rudder Island and 300 feet from the river bank. It is on the property of Tom Williamson, Coxy, R. R. No. 1. Rudder Island will be inundated. Surface shows gravel-tempered thin-walled pottery. It is cord paddled, plentiful on site. Flint chips and snail shells.

Li^{v} 29. Village. 2 acres in extent on river bank about 1 mile from lower end of Rudder Island. Bank is about 10 feet high. This is known as "Penniwinkle Hill" and is on the property of John Gilchrist, of Courtland.

Li^{c} 30. Cave in bluff 75 feet high, mouth 18 feet high, 21 feet wide, and 18 feet deep. Located 75 feet from water edge and about 20 feet above river level. It is known locally as the "Rock House."

Li^{c} 31. Cave. Mouth 8 feet high, 15 feet wide, and 18 feet deep. It has a half room opening about 30 feet above river level and it is about 100 feet back from the river on a gentle slope up to the bluff. It is 0.5 mile east of Li^{c} 30 in the same bluff. Both of these caves are on the Tennessee River, 0.25 mile upstream from the mouth of Elk River and on the property of Judge Horton, of Athens, Ala.

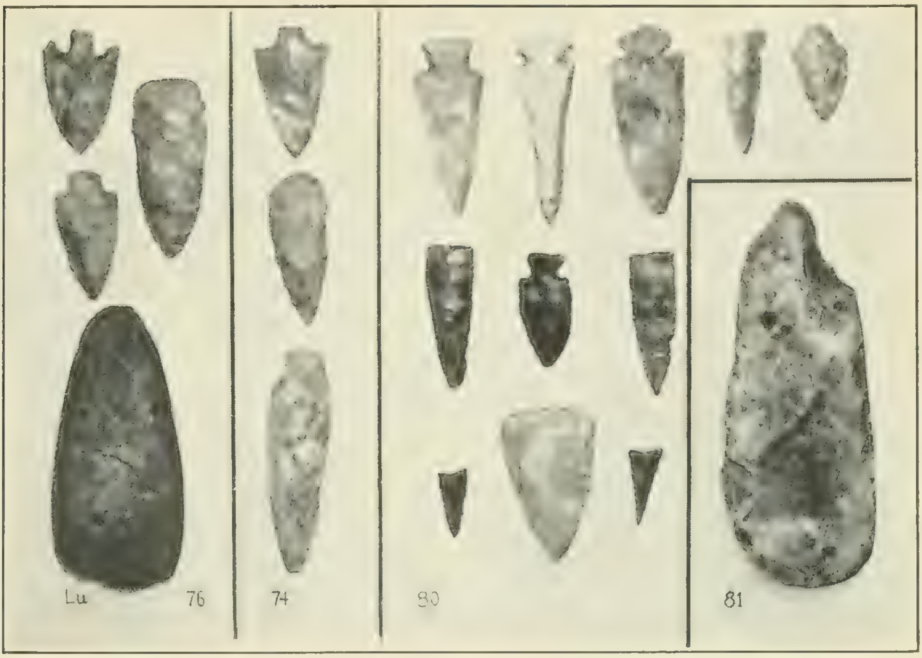
Li^{v} 32. Village. About 1 acre in extent. It is 400 feet from river bank and between the river and its slough and about 0.25 mile east of the lower end of Rudder Island. The site is built up above the bottom land by accumulation of debris. It belongs to John Gilchrist, of Courtland.

Li^{o} 33. Mound. 10 feet high and 300 feet in diameter. It is 400 feet from river and at a place known locally as Ashford Camp about 2 miles from the lower end of the Island. It is the property of John Gilchrist, of Courtland.

Li^{v} 34. Village. 400 feet west and extending 800 feet along river bank.

Li^{v} 35. Mound. 3 feet high, 50 feet wide, and 50 feet long; truncated pyramid. It is on the east side and village site 34 is on the west side of mouth of Limestone Creek on the property of Mr. McIntyre, of Decatur.

Li^{v} 36. Excavated and reported.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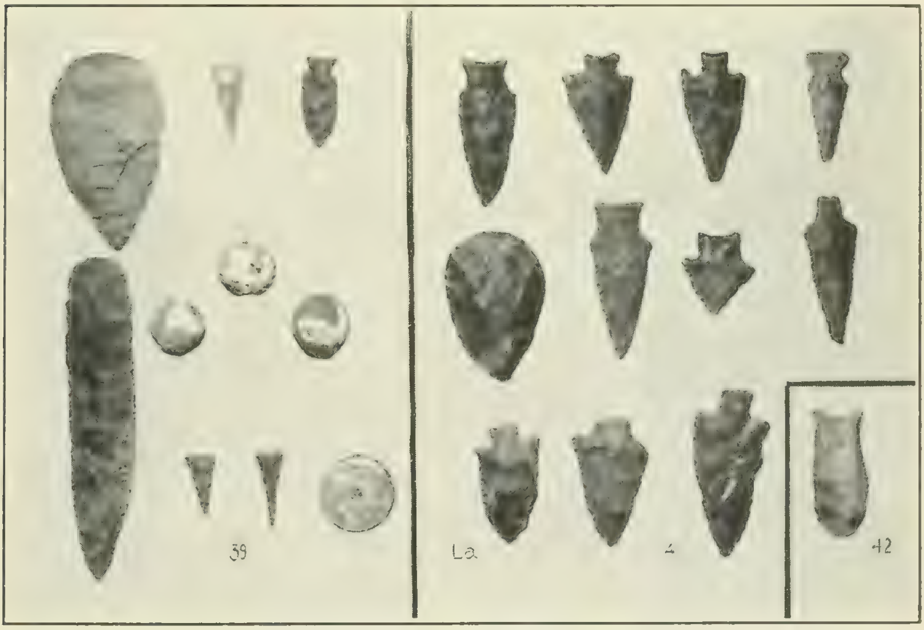
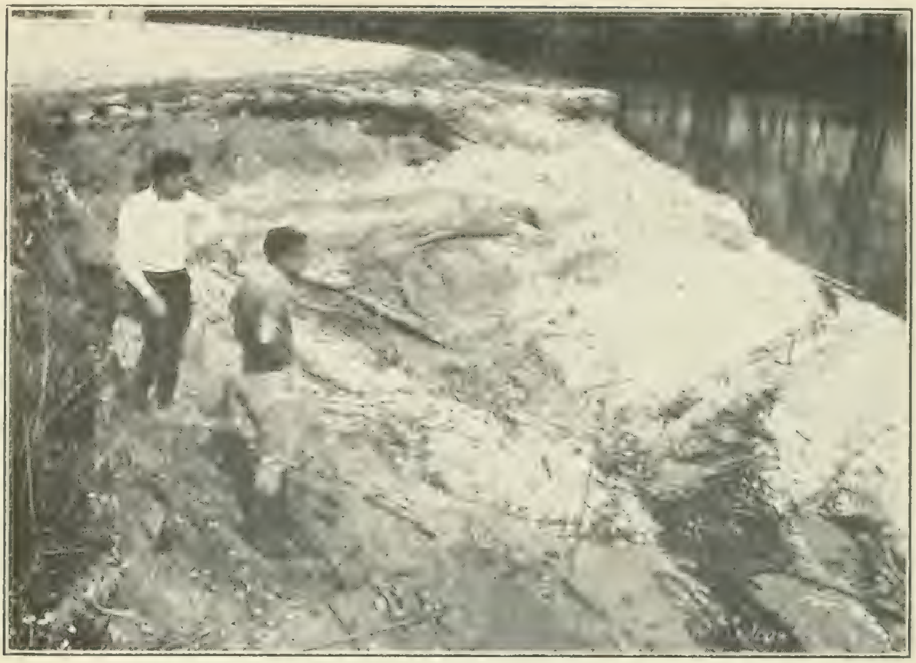
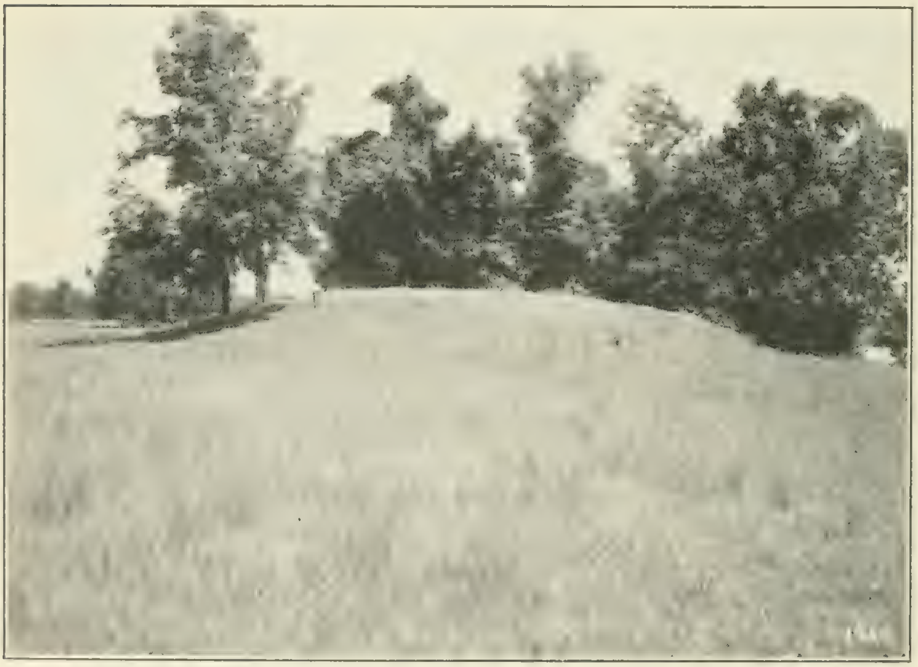
a, Surface collections from sites in Lauderdale County, Ala.



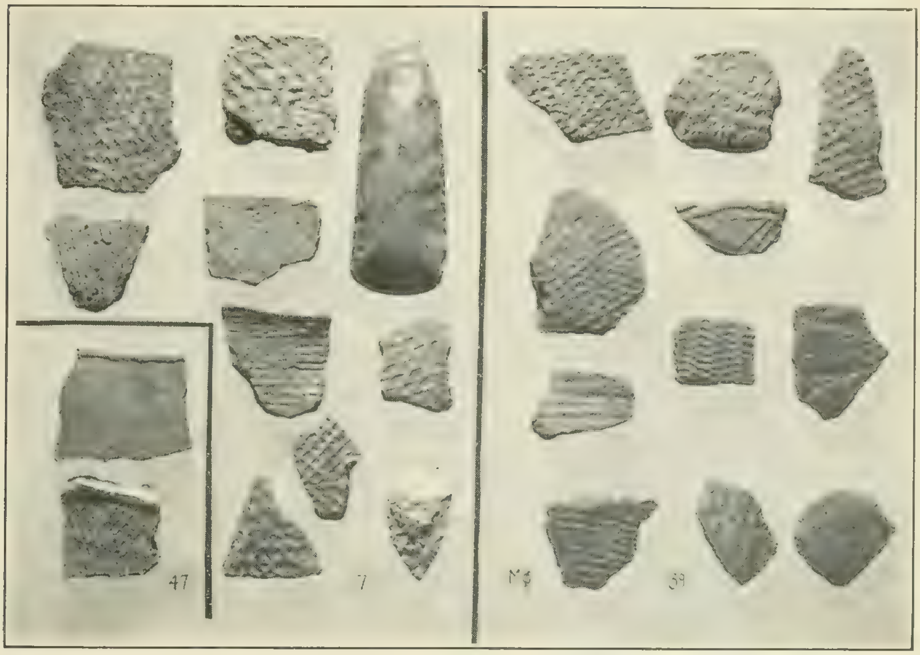
b, Surface collections from sites in Lawrence County, Ala.



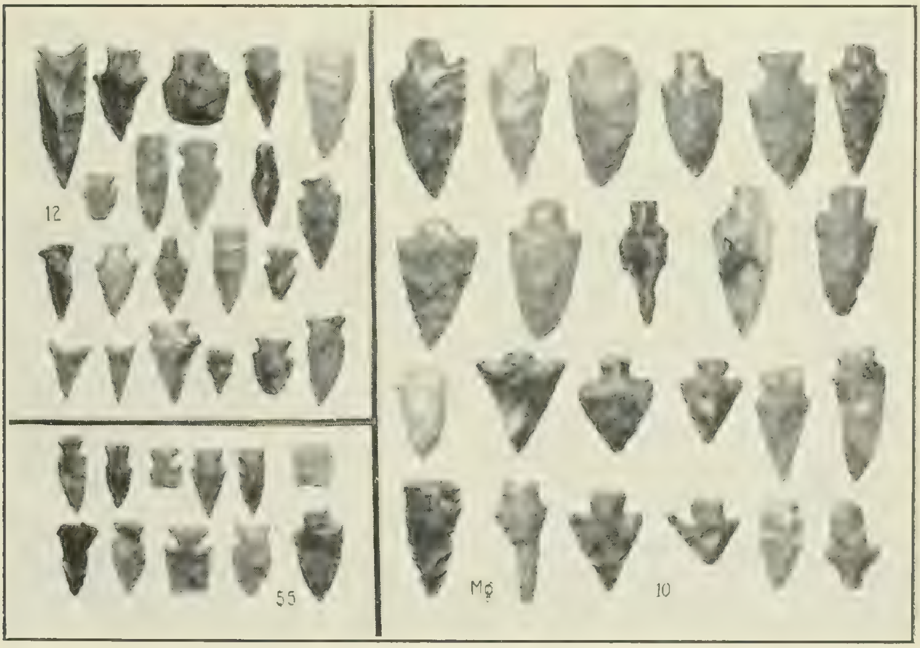
a, Shell mound, Site Ma° 48, on Flint River, Madison County, Ala.



b, Mound at upper end of Knight's Island, Site La° 3, Lawrence County, Ala.



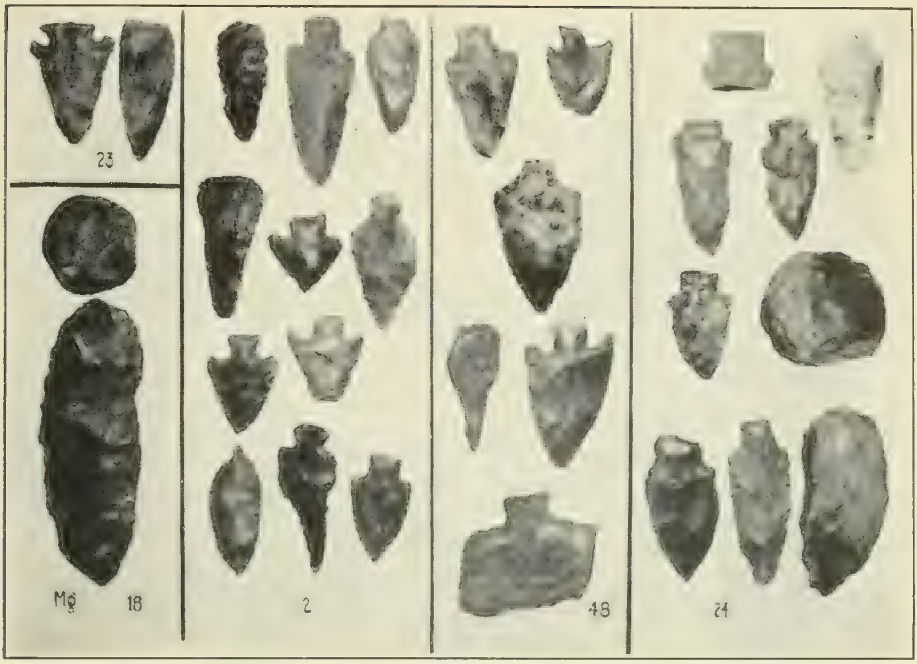
a, Surface collections from Sites 7, 39, and 47, Morgan County, Ala.



b, Surface collections from Sites 10, 12, and 55, Morgan County, Ala.

a, Bluff shelter, Site Li° 1, Limestone County, Ala.

b, Close-up of cave mouth, Site Li° 1, Limestone County, Ala.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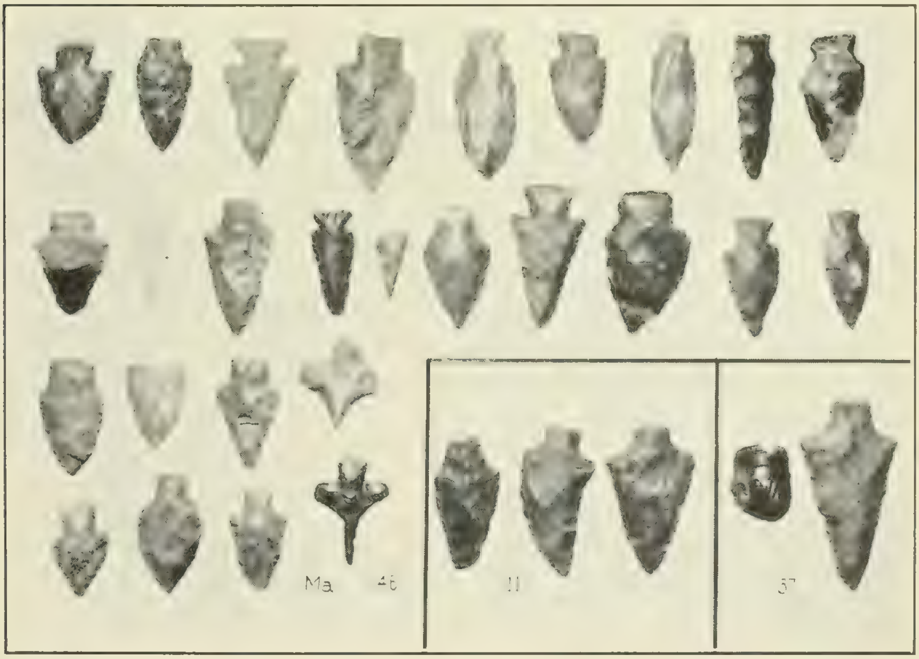
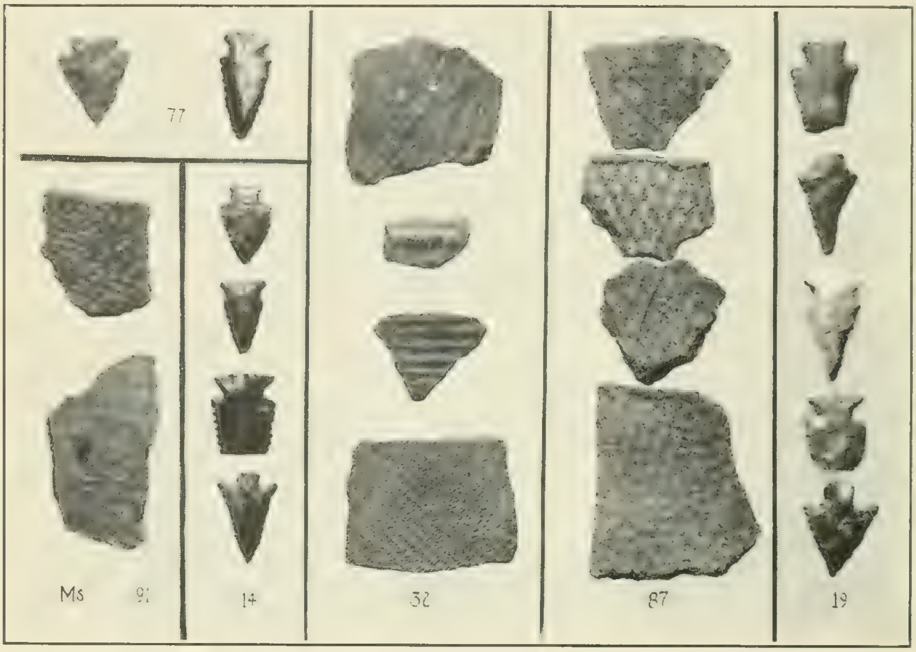
a, Surface collections from Sites 2, 18, 24, 48, Morgan County, Ala.



b, Surface collections from sites in Mason County, Ala.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Surface collections from sites in Marshall County, Ala.

A STUDY OF THE PHYSICAL ANTHROPOLOGY AND PATHOLOGY OF THE OSTEOLOGICAL MATERIAL FROM THE WHEELER BASIN

By W. D. Funkhouser

Dean of Graduate School and Professor of Anthropology, University of Kentucky

The osteological material from the sites described in this report is so fragmentary and in general in such bad condition that the available data regarding the structural characters of the group of aborigines inhabiting the region are far from satisfactory.

Very few of the skeletons were anything like complete, and while occasional individual bones yielded good measurements, they are valuable chiefly for purposes of comparison and cannot be considered as satisfactory for the reconstruction of complete skeletons.

It is apparent that the burials in the area in Alabama, which was investigated as a part of the project discussed in the preceding sections of this report, were in situations not at all conducive to the preservation of osteological material. The bones had undoubtedly been water-soaked many times and the actual excavations were in many cases made under very unfavorable circumstances.

This osteological report is therefore little more than a record of the measurements made in the laboratory of the material from the various sites. The usual osteometric procedure was followed in the laboratory and the attempt was made to secure the following data for each skeleton:

1. Length of skeleton (vertex to calcaneum).
2. Skull:
    - *a.* Maximum length.
    - *b.* Maximum breadth.
    - *c.* Cephalic index.
    - *d.* Glabella-inion length.
    - *e.* Height (basion to bregma).
    - *f.* Nasal length (nasion to nasospinale).
    - *g.* Orbits: maximum length and maximum breadth.
    - *h.* Occipital foramen: maximum length and maximum breadth.
    - *i.* Sagittal-cranial arc (from nasion over vertex to opisthion).
    - *j.* Horizontal circumference (over glabella and inion).

3. Lower jaw (maximum measurements):
    - *a.* Bigonial breadth.
    - *b.* Bicondylar breadth.
    - *c.* Length of ramus.
    - *d.* Breadth of ramus.
4. Long bones (maximum length):
    - *a.* Right and left humerus.
    - *b.* Right and left ulna.
    - *c.* Right and left radius.
    - *d.* Right and left femur.
    - *e.* Right and left tibia.
    - *f.* Right and left fibula.

In the descriptions of the various burials all of the measurements are given which were possible for that particular skeleton. The absence of a measurement or index indicates that the material did not permit of the securing of these data. No field notes are included in this discussion. All measurements were made in the laboratory with the usual osteometric board and calipers and all measurements are, of course, recorded in millimeters.

Pathological conditions are noted whenever such were evident and the condition of the teeth is recorded if unusual features were apparent.

Measurements are given only for those bones which were practically perfect, with good epiphyses and little decomposition. It thus often happens that a skeleton which at first glance seems fairly complete in reality yields few measurements which are of anthropometric value.

Since only those burials are here recorded which yielded osteological material suitable for study, the numbers of the skeletons and burials are not always consecutive but they conform to those used in the general descriptions of the sites in the foregoing sections of this report. Also, as has been explained in the general body of this report, the sites are recorded according to the counties in which they were found and are indicated as mounds, village sites, etc., as the case may have been. Following this system, the skeletal material is here reported from six counties in the following order: Colbert, Lauderdale, Lawrence, Limestone, Madison, and Morgan.

Colbert County

Only one site is reported from Colbert County, a village site recorded as No. 17. Four skeletons are reported from this site, as follows:

Skeleton No. 3.—Adult female. Skull: Maximum length, 167 mm; maximum breadth, 143 mm; cephalic index, 85.62; height, 128 mm; nasal length, 46 mm; length occipital foramen, 36 mm; horizontal circumference, 476 mm. Lower jaw: Bigonial breadth, 87 mm; bi-

condylar breadth, 112 mm; length of ramus, 52 mm; breadth of ramus, 32 mm. Teeth slightly worn; second premolar rotated. None of the long bones of this skeleton were suitable for measurements.

Skeleton No. 4.—Adult male. Skull: Maximum length, 172 mm; maximum breadth, 133 mm; cephalic index, 77.32; glabella-inion length, 166 mm; height, 133 mm; nasal length, 48 mm; length of orbit, 32 mm; breadth of orbit, 38 mm: length of occipital foramen, 35 mm; breadth of occipital foramen, 29 mm; sagittal-cranial arc, 349 mm; length of ramus, 61 mm; breadth of ramus, 39 mm. Teeth badly worn with angular occlusion. Long bones: Right ulna, 257 mm; left ulna, 257 mm; right fibula, 341 mm; left femur, 434 mm.

Skeleton No. 6.—Adult male. Skull: Maximum length, 182 mm; maximum breadth, 133 mm; cephalic index, 73.07; glabella-inion length, 173 mm; length of orbit, 34 mm; breadth of orbit, 37 mm; sagittal-cranial arc, 361 mm; horizontal circumference, 507 mm; bigonial breadth, 95 mm; bicondylar breadth, 124 mm; length of ramus, 61 mm; breadth of ramus, 33 mm. Teeth badly worn. None of the long bones were well enough preserved to yield accurate measurements.

Skeleton No. 8.—Sex and age not determinable. Skull fragmentary. Lower jaw: Bigonial breadth, 89 mm; bicondylar breadth, 129 mm; length of ramus, 55 mm; breadth of ramus, 38 mm. Long bones: Right humerus, 320 mm; left humerus, 316 mm; right radius, 244 mm; right tibia, 361 mm; left tibia, 369 mm; left ulna, 267 mm; right fibula, 350 mm; left fibula, 348 mm.

LAUDERDALE COUNTY

The only site in Lauderdale County which yielded skeletal material worth noting is a mound recorded as No. 16. In this mound was found the skull of one individual and in another grave the fragmentary remains of a second.

Skeleton No. 1.—Adult; sex not determinable. Skull fragmentary and not suitable for measurements. Long bones: Right ulna, 280 mm; left ulna, 283 mm; right radius, 259 mm; right femur, 464 mm; left femur, 460 mm. The left ulna and right ulna had been broken in life and are shown in a photograph in a later section of this report.

Skeleton No. 2.—Skull only; apparently that of an adult male. Maximum length, 172 mm; maximum breadth, 144 mm; cephalic index, 83.72; breadth of orbit, 34 mm. No other measurements can be accurately made.

Lawrence County

All of the material from Lawrence County came from one site, a mound reported as No. 86. Twelve skeletons are recorded from this site, as follows:

Skeleton No. 20.—Adult male. Skull: Maximum length, 175 mm; maximum breadth, 127 mm; cephalic index, 72.57; glabella-inion length, 172 mm; sagittal-cranial arc, 348 mm; horizontal circumference, 480 mm; bigonial breadth, 105 mm; bicondylar breadth, 117 mm; length of ramus, 54 mm; breadth of ramus, 33 mm. Long bones: Right humerus, 307 mm; right ulna, 277 mm. The left humerus and ulna show a dislocation at the elbow which is described and figured in the section on pathology in a later section of this report. The right radius also shows a pathological condition.

Skeleton No. 21.—Adult male. Skull: Maximum length, 158 mm; maximum breadth, 135 mm; cephalic index, 85.44; glabella-inion length, 148 mm; height, 137 mm; nasal length, 158 mm; length of orbit, 37 mm; breadth of orbit, 36 mm; length of occipital foramen, 35 mm; breadth of occipital foramen, 32 mm; sagittal-cranial arc, 329 mm; horizontal circumference, 473 mm; bigonial breadth, 99 mm; bicondylar breadth, 120 mm; length of ramus, 33 mm. The teeth are much worn and although the bones undoubtedly represent a fully mature individual none of the third molars are present. Long bones: Left humerus, 287 mm; left ulna, 225 mm; left radius, 207 mm. The leg bones are too badly decomposed for measurements.

Skeleton No. 23.—A few fragmentary bones of which only the right humerus and the right ulna are perfect. The measurements of these are: Right humerus, 328 mm; right ulna, 269 mm.

Skeleton No. 24.—Adult male. Skull: Maximum length, 175 mm; glabella-inion length, 168 mm; length of orbit, 34 mm; breadth of orbit, 41 mm; breadth of ramus, 35 mm. The breadth of the skull cannot be measured and consequently the cephalic index cannot be reported. None of the other bones are suitable for accurate measurement.

Skeleton No. 26.—Adult male. Skull: Maximum length, 189 mm; maximum breadth, 135 mm; cephalic index, 71.95; glabella-inion length, 175 mm; length of orbit, 35 mm; breadth of orbit, 36 mm; sagittal-cranial arc, 386 mm; horizontal circumference, 505 mm; bigonial breadth, 106 mm; bicondylar breadth, 129 mm; length of ramus, 64 mm; breadth of ramus, 36 mm. The skull shows a curious discoloration which has apparently been caused by contact with some copper object. The mandible has a supernumerary premolar. Long bones: Right humerus, 314 mm; right ulna, 270 mm; left ulna, 269 mm; right radius, 248 mm; left radius, 248 mm; left femur, 433 mm; right tibia, 362 mm; left tibia, 359 mm; right fibula, 346 mm; left fibula, 343 mm. This is one of the best preserved of all of the skeletons from this site.

Skeleton No. 28.—Adult male. Skull: Maximum length, 165 mm; maximum breadth, 168 mm; cephalic index, 101.81; glabella-inion length, 160 mm; sagittal-cranial arc, 372 mm; length of ramus, 61 mm. The frontal region of this skull is greatly depressed, doubtless from artificial binding, which accounts for the exaggerated brachycephalic cephalic index. Long bones: Right femur, 445 mm; left humerus, 331 mm. The right ulna shows a pathological condition which is described in a later section of this report.

Skeleton No. 29.—This skeleton, which is apparently that of an adult male, is in excellent condition but lacks a skull. Long bones: Left humerus, 320 mm; right ulna, 225 mm; left ulna, 253 mm; right radius, 239 mm; left radius, 235 mm; right femur, 440 mm; left femur, 449 mm; right tibia, 370 mm; left tibia, 369 mm.

Skeleton No. 30.—Adult female. In good condition. Skull: Maximum length, 171 mm; maximum breadth, 153 mm; cephalic index, 89.47; glabella-inion length, 155 mm; height, 135 mm; length of orbit, 33 mm; breadth of orbit, 35 mm; length of occipital foramen, 37 mm; breadth of occipital foramen, 31 mm; sagittal-cranial arc, 352 mm; horizontal circumference, 507 mm; length of ramus, 55 mm; breadth of ramus, 31 mm. Long bones: Right humerus, 311 mm; right ulna, 248 mm; left ulna, 252 mm; right radius, 233 mm; left radius, 234 mm; right femur, 435 mm; left femur, 434 mm; right tibia, 355 mm; left tibia, 358 mm; left fibula, 350 mm.

Skeleton No. 32.—Adult; sex not identifiable. The skull is fragmentary and badly rotted and yields no osteometric data of value but the rest of the skeleton is fairly well preserved. The skeleton is extremëly interesting because the hips are dislocated, a condition which has apparently existed from birth. The measurements of the long bones are as follows: Right humerus, 318 mm; left humerus, 306 mm; right ulna, 260 mm; left ulna, 257 mm; right radius, 237 mm; left radius, 234 mm; left femur, 432 mm; right tibia, 361 mm; right fibula, 347 mm; left fibula, 343 mm. The very interesting dislocation of both hips is described and figured in the later section of this report which deals with the pathological conditions found in this material.

Skeleton No. 34.—A fragmentary and badly decomposed skeleton, none of the bones of which are perfect enough to yield measurements of any scientific value. The skull is very badly warped, but whether from artificial binding or post-burial pressure it is impossible to determine.

Skeleton No. 35.—An adult of uncertain sex with the skull mutilated and few of the bones complete. The long bones, which are well enough preserved to warrant study, measure as follows: Right humerus, 292 mm; right radius, 214 mm: right femur, 397 mm; right tibia, 325 mm; left tibia, 323 mm.

Skeleton No. 37.—Adult male. Fairly well preserved. Skull: Maximum length, 176 mm; maximum breadth, 146 mm; cephalic index, 82.93; glabella-inion length, 168 mm; height, 142 mm; length of orbit, 36 mm; length of occipital foramen, 36 mm; sagittal-cranial arc, 359 mm. Long bones: Right humerus, 332 mm; left humerus, 326 mm; right ulna, 274 mm; left ulna, 274 mm; left radius, 260 mm; right radius, 259 mm; right femur, 472 mm; left femur, 470 mm; right tibia, 411 mm; left tibia, 401 mm. The skull, clavicles, and vertebrae of this skeleton show the same greenish copper discolorations that have been reported for skeleton No. 26.

Limestone County

Fifteen skeletons were secured from Limestone County; all from Village Site No. 36.

Skeleton No. 2.—Adult male. Skull: Maximum length, 170 mm; maximum breadth, 142 mm; cephalic index, 83.52; glabella-inion length, 164 mm; nasal length, 55 mm; length of orbit, 38 mm; horizontal circumference, 498 mm. The right femur, which measured 479 mm in length, was the only long bone which was complete.

Skeleton No. 3.—Adult female. Skull: Maximum length, 170 mm; maximum breadth, 144 mm; cephalic index, 84.7. Long bones: Right radius, 234 mm; right femur, 440 mm; right tibia, 361 mm.

Skeleton No. 4.—Adult male. Skull: Maximum length, 165 mm; maximum breadth, 154 mm; cephalic index, 93.33; glabella-inion length, 162 mm; height, 140 mm; sagittal-cranial arc, 341 mm; horizontal circumference, 505 mm; length of ramus, 54 mm; breadth of ramus, 33 mm. Incisors badly worn and rounded. Long bones: Right humerus, 287 mm; left humerus, 291 mm; left radius, 226 mm; right femur, 398 mm; left femur, 401 mm; right tibia, 334 mm; left tibia, 336 mm; right fibula, 226 mm.

Skeleton No. 8.—Adult male. Skull: Maximum length, 168 mm; maximum breadth, 146 mm; cephalic index, 86.90; glabella-inion length, 163 mm; height, 142 mm; nasal length, 51 mm; length of orbit, 37 mm; breadth of orbit, 36 mm; length of occipital foramen, 33 mm; breadth of occipital foramen, 32 mm; sagittal-cranial arc, 343 mm; horizontal circumference, 498 mm; bigonial breadth, 91 mm; bicondylar breadth, 118 mm; length of ramus, 55 mm; breadth of ramus, 36 mm. Long bones: Right humerus, 353 mm; left radius, 260 mm; right femur, 472 mm; left femur, 472 mm; right tibia, 397 mm; left tibia, 395 mm.

Skeleton No. 9.—Fragmentary remains of an immature individual of uncertain sex. Skull too incomplete for measurements. Long bones: Right humerus, 379 mm; left humerus, 277 mm; left femur, 383 mm. End of sternum and ends of ribs not completely ossified.

Skeleton No. 10.—Adult male. Skull yielding a few measurements; other parts of the skeleton fragmentary. Skull: Maximum length, 181 mm; maximum breadth, 133 mm; cephalic index, 73.26; glabella-inion length, 176 mm; horizontal circumference, 490 mm; bigonial breadth, 93 mm; length of ramus, 56 mm; breadth of ramus, 31 mm.

Skeleton No. 12.—Adult male. Skull: Maximum length, 177 mm; maximum breadth, 142 mm; cephalic index, 80.22; glabella-inion length, 167 mm; height, 140 mm; sagittal-cranial arc, 359 mm; horizontal circumference, 505 mm; length of ramus, 65 mm; breadth of ramus, 39 mm. Long bones: Right humerus, 336 mm; left humerus, 336 mm; right femur, 438 mm; left femur, 467 mm; left tibia, 391 mm.

Skeleton No. 13.—Adult. Sex undeterminable. Skull incomplete. Long bones: Right humerus, 320 mm; right femur, 437 mm; left femur, 432 mm; right tibia, 352 mm; left tibia, 358 mm.

Skeleton No. 15.—Adult male. The lower jaw is the only part of the skull complete. It has a bigonial breadth of 100 mm; length of ramus, 60 mm; breadth of ramus, 30 mm. Long bones: Right femur, 410 mm; right tibia, 356 mm. The right femur shows an exostosis which is described and figured in a later section of this report devoted to pathology.

Skeleton No. 16.—Adult male. Skull too fragmentary for reconstruction. Lower jaw: Bigonial breadth, 86 mm; breadth of ramus, 40 mm. Teeth all badly worn with the incisors well rounded. Long bones: Right humerus, 341 mm; left humerus, 346 mm; right ulna, 282 mm; right radius, 260 mm; left radius, 260 mm; right femur, 466 mm; right tibia, 402 mm.

Skeleton No. 17.—Youth. Probably female. Skull fragmentary. Ramus of lower jaw measuring 49 mm in length and 31 mm in breadth. Teeth unworn; third molars not erupted. Long bones: Right humerus, 257 mm; right femur, 369 mm; left femur, 370 mm.

Skeleton No. 20.—Adult male. Skull: Maximum length, 183 mm; maximum breadth, 142 mm; cephalic index, 77.59; glabella-inion length, 173 mm; length of orbit, 37 mm; bigonial breadth, 97 mm; bicondylar breadth, 129 mm; length of ramus, 64 mm; breadth of ramus, 33 mm. Teeth very badly worn. Long bones: Right humerus, 346 mm; left humerus, 342 mm; left ulna, 292 mm; left radius, 273 mm; right femur, 475 mm; left femur, 476 mm; right tibia, 418 mm; left tibia, 417 mm.

Skeleton No. 21.—Adult male. Skull: Maximum length, 171 mm; maximum breadth, 136 mm; cephalic index, 79.53; glabella-inion length, 156 mm; sagittal-cranial arc, 464 mm; length of ramus, 61 mm; breadth of ramus, 37 mm. Long bones: Right humerus, 311 mm; right ulna, 272 mm; left radius, 245 mm; right femur, 435 mm; left femur, 442 mm; left tibia, 379 mm.

Skeleton No. 22.—Adult. Sex not determined. Skull: Maximum breadth, 145 mm; length of occipital foramen, 40 mm; breadth of occipital foramen, 30 mm; bigonial breadth, 105 mm; bicondylar breadth, 129 mm; length of ramus, 63 mm; breadth of ramus, 38 mm. Teeth slightly worn; left third molar not erupted. Long bones: Right humerus, 301 mm; left humerus, 305 mm; right ulna, 260 mm; left ulna, 257 mm; right radius, 236 mm; left radius, 234 mm; right femur, 424 mm; left femur, 425 mm.

Skeleton No. 24.—Adult female. Skull: Maximum length, 170 mm; maximum breadth, 140 mm; cephalic index, 82.35; bigonial breadth, 89 mm; bicondylar breadth, 111 mm; length of ramus, 56 mm; breadth of ramus, 31 mm. Teeth slightly worn. None of the long bones are well enough preserved for measurements.

MADISON COUNTY

The five burials reported from Madison County are all from the same site, designated as mound No. 4.

Skeleton No. 2.—Adult female. Skull: Maximum length, 162 mm; maximum breadth, 155 mm; cephalic index, 95.67; glabella-inion length, 153 mm; height, 143 mm; length of occipital foramen, 36 mm; breadth of occipital foramen, 29 mm; sagittal-cranial arc, 351 mm; horizontal circumference, 494 mm; breadth of ramus, 39 mm. Teeth badly worn. Long bones: Right humerus, 321 mm; left humerus, 318 mm; right radius, 244 mm; left radius, 246 mm; left ulna, 256 mm. None of the leg bones are complete. The cervical vertebrae are fused, which may indicate some form of arthritis.

Skeleton No. 3.—Adult. Sex not determined. Skull fragmentary. Lower jaw: Bigonial breadth, 102 mm; length of ramus, 57 mm; breadth of ramus, 32 mm. Long bones: Right ulna, 260 mm; left ulna, 260 mm. The vertebrae of this skeleton show an extreme lipping, as indicated in the photograph shown in the pathological section of this report, and in addition the bones of the hands and feet seem to show an arthritic condition.

Skeleton No. 5.—Fragmentary. Neither sex nor age can be determined. The teeth, however, are complete, but little worn and in excellent condition. The ramus of the lower jaw is 67 mm long and 40 mm broad. Long bones: Right femur, 445 mm; right tibia, 403 mm; left tibia, 403 mm.

Skeleton No. 8.—An adult female of about 20 years of age. The dome of the skull is fragmentary but the face gives a nasal length (nasion to nasospinale) of 50 mm and orbits 36 mm in length and

38 mm in breadth. Lower jaw: Bigonial breadth, 94 mm; length of ramus, 53 mm; breadth of ramus, 30 mm. Both upper and lower sets of teeth are in excellent condition and in both jaws the third molars are just erupting. Long bones: Left humerus, 320 mm; left ulna, 258 mm; right radius, 242 mm; left radius, 245 mm; right femur, 438 mm; left femur, 438 mm; right tibia, 377 mm; left tibia, 376 mm.

Skeleton No. 9.—Adult male. Skull: Maximum length, 177 mm; maximum breadth, 141 mm; cephalic index, 79.66; glabella-inion length, 163 mm; height, 151 mm; nasal length, 52 mm; length of orbit, 32 mm; breadth of orbit, 38 mm; length of occipital foramen, 35 mm; sagittal-cranial arc, 358 mm; horizontal circumference, 496 mm; bigonial breadth, 103 mm; bicondylar breadth, 131 mm; length of ramus, 66 mm; breadth of ramus, 38 mm. Teeth slightly worn. The supraorbitals of the skull show interesting abrasions which suggest that they have been gnawed by some animal. A photograph of this skull is shown in a later section of this report. Long bones: Right humerus, 323 mm; left humerus, 324 mm; right ulna, 263 mm; left ulna, 261 mm; right radius, 245 mm; left radius, 243 mm; right femur, 422 mm; left femur, 423 mm; right tibia, 359 mm; left tibia, 357 mm. This skeleton is in excellent condition and is not only by far the best skeleton found in this site but one of the best found in Alabama.

MORGAN COUNTY

Morgan County yielded the largest amount of osteological material of any county investigated in the Tennessee Valley Authority project in Alabama, and again the burials are all from one site, a village site indicated in this report as Mg^v 2. Twenty skeletons are here reported from this site, as follows:

Skeleton No. 4.—Adult male. Skull: Maximum length, 203 mm; glabella-inion length, 198 mm; length of orbit, 39 mm; breadth of orbit, 42 mm; sagittal-cranial arc, 370 mm; bigonial breadth, 88 mm; bicondylar breadth, 117 mm; length of ramus, 65 mm; breadth of ramus, 35 mm. The teeth are much worn, badly decayed, and show angular occlusion. The length of this skull as here recorded should be disregarded as the skull is very badly warped. Long bones: Right humerus, 312 mm; right femur, 433 mm; left femur, 430 mm; right tibia, 371 mm; right fibula, 357 mm. The vertebrae of this skeleton show considerable lipping in the cephalic and caudal anterior edges, together with heavy deposits on the anterior surface, a condition which is found very commonly in prehistoric material from the Mississippi Valley and which is usually considered indicative of spondylitis deformans.

Skeleton No. 5.—Adult male. Skull: Maximum length, 177 mm; maximum breadth, 133 mm; cephalic index, 75.14; glabella-inion length, 167 mm; height, 132 mm; nasal length, 42 mm; length of orbit, 32 mm; breadth of orbit, 40 mm; length of occipital foramen, 31 mm; sagittal-cranial arc, 376 mm; horizontal circumference, 475 mm; bigonial breadth, 107 mm; bicondylar breadth, 126 mm; length of ramus, 51 mm; breadth of ramus, 33.5 mm. The teeth badly worn and rounded with angular occlusion and much loss of bone around the bases of the teeth. Long bones: Right ulna, 237 mm; right radius, 222 mm; left humerus, 295 mm. The cervical vertebrae of this skeleton are fused.

Skeleton No. 7.—Adult male. Skull: Maximum length, 168 mm; maximum breadth, 149 mm; cephalic index, 88.69; glabella-inion length, 152 mm; height, 137 mm; nasal length, 34 mm; length of orbit, 34 mm; breadth of orbit, 38 mm; length of occipital foramen, 33 mm; breadth of occipital foramen, 29 mm; sagittal-cranial arc, 342 mm; horizontal circumference, 476 mm; bigonial breadth, 108 mm; bicondylar breadth, 130 mm; length of ramus, 52 mm; breadth of ramus, 35 mm. Teeth very badly worn. Long bones: Right humerus, 307 mm; left humerus, 304 mm; right ulna, 358 mm; left ulna, 254 mm; right radius, 238 mm; right femur, 432 mm; left femur, 432 mm; right tibia, 362 mm; left tibia, 358 mm; right fibula, 347 mm; left fibula, 343 mm.

Skeleton No. 9.—Adult male. Skull showing a length of 185 mm, but not suitable for other measurements. Lower jaw: Bigonial breadth, 96 mm; bicondylar breadth, 128 mm; length of ramus, 57 mm; breadth of ramus, 36 mm. Teeth worn and showing large pyorrhea pockets. Long bones: Left radius, 234 mm; right femur, 425 mm. No other long bones perfect. The vertebrae are in fair condition and some are fused.

Skeleton No. 10.—Adult. Sex in doubt; probably female. Skull: Maximum length, 175 mm; maximum breadth, 137 mm; cephalic index, 78.28; glabella-inion length, 162 mm; nasal length, 51 mm; length of orbit, 34 mm; breadth of orbit, 38 mm; sagittal-cranial arc, 367 mm; horizontal circumference, 481 mm; bicondylar breadth, 121 mm; length of ramus, 56 mm; breadth of ramus, 29 mm. Teeth badly worn. None of the long bones are in good enough condition to yield satisfactory measurements.

Skeleton No. 15.—Adult male. Skull: Maximum length, 171 mm; maximum breadth, 148 mm; cephalic index, 86.55; glabella-inion length, 166 mm; height, 147 mm; nasal length, 51 mm; length of orbit, 35 mm; breadth of orbit, 40 mm; length of occipital foramen, 35 mm; breadth of occipital foramen, 29 mm; sagittal-cranial arc, 357 mm; horizontal circumference, 499 mm. Teeth slighty worn. Lower jaw missing. Long bones: Right humerus, 323 mm; left humerus, 322 mm; right ulna, 276 mm; left ulna, 276 mm; right radius, 252 mm; left radius, 250 mm; right femur, 450 mm; left femur, 441 mm; right tibia, 385 mm; left tibia, 380 mm; right fibula, 380 mm. A number of the vertebrae are fused, all of those in the lumbar series being grown together.

Skeleton No. 16.—Fragmentary and badly decomposed. Age and sex undeterminable. Skull too badly decayed for reconstruction. Lower jaw: Bigonial breadth, 109 mm; bicondylar breadth, 127 mm; length of ramus, 58 mm; breadth of ramus, 33 mm. Of the long bones, only the right humerus is intact. This measures 295 mm in length.

Skeleton No. 17.—Fragmentary, decomposed. Neither age nor sex can be positively determined. Skull: Maximum length, 163 mm; maximum breadth, 136 mm; cephalic index, 82.20; sagittal-cranial arc, 349 mm; bigonial breadth, 95 mm; bicondylar breadth, 122 mm; length of ramus, 59 mm; breadth of ramus, 34 mm. None of the long bones complete enough for measurements. Pelvic region entirely decayed. Vertebrae badly rotted.

Skeleton No. 19.—Adult male. Skull: Maximum length, 178 mm; maximum breadth, 136 mm; cephalic index, 76.40; glabella-inion length, 171 mm; height, 144 mm; nasal length, 53 mm; length of orbit, 35 mm; breadth of orbit, 38 mm; length of occipital foramen, 36 mm; breadth of occipital foramen, 30 mm; sagittal-cranial arc, 354 mm; horizontal circumference, 496 mm; length of ramus, 65 mm; breadth of ramus, 36 mm. Teeth only slightly worn. Long bones: Right humerus, 331 mm; right femur, 456 mm. The left tibia shows lesions which are very suggestive of syphilis, particularly since the skull is affected in the same manner.

Skeleton No. 20.—Fragmentary skeleton of young adult female. Skull too fragmentary for reconstruction. Lower jaw: Bigonial breadth, 93 mm; bicondylar breadth, 118 mm; length of ramus, 50 mm; breadth of ramus, 34 mm. Teeth not at all worn; cusps perfect. Long bones: Left humerus, 283, mm; left ulna, 226 mm; left radius, 213 mm; right femur, 394 mm. The epiphyses of most of the long bones had not yet become firmly attached to the shafts, indication of the comparative youth of the individual.

Skeleton No. 23.—Youth. Probably female. Skull: Maximum length, 167 mm; maximum breadth, 138 mm; cephalic index, 82.79; glabella-inion length, 158 mm; bigonial breadth, 88 mm; bicondylar breadth, 107 mm; length of ramus, 45 mm; breadth of ramus, 30 mm. Teeth only slightly worn; third molars not erupted. None of the long bones suitable for measurements; epiphyses disarticulated. Ribs and sternum not fully ossified.

Skeleton No. 27.—Fragmentary skeleton with no skull. Apparently mature. Sex not recognizable. Long bones: Right humerus, 299 mm; right ulna, 254 mm; left ulna, 249 mm; right radius, 230 mm; right femur, 416 mm; left femur, 411 mm; left tibia, 349 mm. A number of vertebrae in the cephalic and dorsal regions show considerable lipping.

Skeleton No. 28.—Adult male. Skull fragmentary. Lower jaw: Length of ramus, 62 mm; breadth of ramus, 32 mm. Teeth badly worn; pyorrhea indicated. Long bones: Right humerus, 323 mm; right ulna, 270 mm; right radius, 250 mm; left radius, 247 mm; right femur, 436 mm; left femur, 440 mm; right tibia, 377 mm.

Skeleton No. 29.—Adult female. Skull: Maximum length, 180 mm; maximum breadth, 133 mm; cephalic index, 73.89; glabella-inion length, 158 mm; height, 142 mm; nasal length, 43 mm; length of orbit, 29 mm; breadth of orbit, 35 mm; length of occipital foramen, 34 mm; breadth of occipital foramen, 28 mm; sagittal-cranial arc, 377 mm; horizontal circumference, 488 mm; bigonial breadth, 101 mm; length of ramus, 53 mm; breadth of ramus, 36 mm. Teeth somewhat worn. Long bones fragmentary and badly decomposed.

Skeleton No. 30.—Adult; sex not determined. Skull too badly crushed for measurements. Lower jaw fragmentary. Long bones: Left humerus, 324 mm; right ulna, 289 mm; right radius, 259 mm; left radius, 253 mm. A number of the lumbar vertebrae show the characteristic lipping.

Skeleton No. 32.—Adult male. Skull: Maximum length, 167 mm; maximum breadth, 145 mm; cephalic index, 86.82; glabella-inion length, 153 mm; height, 135 mm; breadth of occipital foramen, 26 mm; sagittal-cranial arc, 354 mm; horizontal circumference, 481 mm; length of ramus, 49 mm; breadth of ramus, 33 mm. The teeth are badly worn and both the skull and the mandible show lesions indicative of the serious bone destruction. Long bones: Right ulna, 215 mm; left ulna, 214 mm; right radius, 197 mm; left radius, 203 mm; right femur, 365 mm; left femur, 368 mm; right tibia, 299 mm; left tibia, 300 mm; right fibula, 286 mm; left fibula, 286 mm. The vertebrae of the lumbar region of this skeleton, all of which show extreme lipping, are described and figured in a later section of this report devoted to the discussion of pathology.

Skeleton No. 34.—Adult; sex not determined. Skull: Maximum length, 171 mm; maximum breadth, 148 mm; cephalic index, 86.55; glabella-inion length, 161 mm; face decayed; length of ramus, 50 mm; breadth of ramus, 31 mm. Teeth slightly worn; all erupted and present. Long bones fragmentary.

Skeleton No. 34a.—Adult male. Skull: Maximum length, 171 mm; one side missing; no cephalic index computed; glabella-inion length, 156 mm; height, 136 mm; nasal length, 44 mm; length of orbit, 33 mm; breadth of orbit, 37 mm; length of occipital foramen, 33 mm; breadth of occipital foramen, 27 mm; sagittal-cranial arc, 368 mm; bigonial breadth, 91 mm; length of ramus, 53 mm; breadth of ramus (minimum), 31 mm. Teeth badly worn; all 32 present. Vertebrae, scapulae, and ribs in fair condition; pelvic region and long bones too badly decomposed for measurements.

Skeleton No. 37.—Youth; sex uncertain. Skull fragmentary. Long bones: Right humerus, 291 mm; left humerus, 285 mm; right ulna, 240 mm; left ulna, 218 mm; right radius, 223 mm; left radius, 214 mm; right femur, 424 mm; left femur, 417 mm. The left arm was dislocated during life at the elbow. A photograph of this dislocation is shown in a later section of this report.

Skeleton No. 38.—Youth; female. Skull: Maximum length, 139 mm; height, 140 mm; occipital region mutilated so that length and sagittal-cranial arc cannot be determined and of course no cephalic index can be obtained; nasal length, 46 mm; length of orbit, 34 mm; breadth of orbit, 34 mm; length of occipital foramen, 37 mm; bigonial breadth, 90 mm; bicondylar breadth, 112 mm; length of ramus, 45 mm; breadth of ramus, 29 mm. All of the teeth are worn but the upper third molars have not yet erupted. A very interesting case of malocclusion is described and shown in a photograph in the discussion of dental pathology in this report. The bones of the skeleton, other than the skull, are not fully ossified and the epiphyses of the long bones are detached so that measurements are not possible.

COMPARATIVE OSTEOLOGY

Because of the meagerness of the Alabama material no great significance can be attached to any conclusions drawn from a study of the skeletons from the standpoints of the determination of dominant characters or comparisons with other groups. However, the following data are given for what they may be worth.

The figures represent, as is customary, only the measurements of adult males. The summaries of these measurements for all the sites concerned are as follows:

SKULLS

Length:		
Maximum	mm	189
Minimum	mm	158
Mean	mm	173
Average	mm	173.74
Breadth:		
Maximum	mm	168
Minimum	mm	133
Mean	mm	142
Average	mm	143.15
Cephalic index:		
Maximum		93.33
Minimum		71.95
Mean		80.22
Average		80.88
Glabella-inion length:		
Maximum	mm	198
Minimum	mm	152
Mean	mm	167
Average	mm	166.51
Height:		
Maximum	mm	151
Minimum	mm	132
Mean	mm	140
Average	mm	140

Sagittal-cranial arc:			Circumference:		
Maximum	mm	386	Maximum	mm	507
Minimum	mm	329	Minimum	mm	473
Mean	mm	357	Mean	mm	496
Average	mm	356. 66	Average	mm	491. 85

In addition to the data shown in the above summary it may be noted that the skulls are in general asymmetrical, rather thin walled, show a rather sloping frontal region and generally an occipital flattening probaby due to binding in early life. The cheekbones are high and far apart and the eye sockets are uniformly wider than high and in many cases more or less rectangular.

Corresponding data for the lower jaws of the adult males suitable for measurements may be tabulated as follows:

INFERIOR MAXILLARY

Bigonial breadth:			Length of ramus:		
Maximum	mm	108	Maximum	mm	66
Minimum	mm	86	Minimum	mm	49
Mean	mm	97	Mean	mm	58
Average	mm	97. 12	Average	mm	58. 14
Bicondylar breadth:			Breadth of ramus		
Maximum	mm	131	Maximum	mm	40
Minimum	mm	117	Minimum	mm	31
Mean	mm	126	Mean	mm	34
Average	mm	124. 83	Average	mm	34

The data for the long bones, tabulated as usual from the measurements of adult males only, are as follows:

Humerus:			**Femur:**		
Maximum	mm	353	Maximum	mm	479
Minimum	mm	287	Minimum	mm	410
Mean	mm	323	Mean	mm	449
Average	mm	320	Average	mm	448. 29
Ulna:			Tibia:		
Maximum	mm	292	Maximum	mm	417
Minimum	mm	225	Minimum	mm	334
Mean	mm	265	Mean	mm	377
Average	mm	264. 37	Average	mm	377. 52
Radius:			Fibula:		
Maximum	mm	273	Maximum	mm	372
Minimum	mm	197	Minimum	mm	326
Mean	mm	243	Mean	mm	348
Average	mm	240. 82	Average	mm	348. 37

While the foregoing statistics are based on the study of only a comparatively small number of individuals, they show at least one very interesting fact, namely, the remarkable uniformity of the measurements. Not only is there very little range from maximum to minimum, but the means and averages are strikingly close together, in some cases, in fact—e. g., for height of skull and breadth of ramus—

absolutely identical. This would certainly suggest that we are dealing with a very homogeneous group. The picture of the average individual as indicated by these measurements would be that of a man somewhat above medium height, rather light-boned, with a mesocephalic or brachycephalic skull, broad-faced with high cheekbones, the skull flattened in the occipital region, and a slightly sloping forehead.

If these same data are used as a basis of comparison with similar data from other regions we find again some interesting similarities and contrasts. In a previous report on a Tennessee Valley Authority archaeological project in the Norris Basin it was shown that the skeletal material undoubtedly represented two distinct groups in that area—one a short, thick-set, dolichocephalic group which was believed to be intrusive, and the other a taller, brachycephalic group which seemed to represent the endemic population. The Alabama material agrees very closely with this latter group, as is indicated in the following comparative tables based on the mean measurements of the material from the two areas.

	Tennessee	Alabama
Skull:		
Maximum length ... mm	165	189
Maximum breadth ... mm	156	168
Height ... mm	140	140
Cephalic index	92	80
Long bones:		
Humerus ... mm	321	353
Ulna ... mm	267	265
Radius ... mm	249	243
Femur ... mm	450	449
Tibia ... mm	376	377
Fibula ... mm	362	348

If these figures have any significance they indicate that the Alabama individuals have somewhat larger heads with a lower cephalic index but that so far as stature is concerned, particularly if that character is estimated from the length of the femur, which has in general proven a satisfactory criterion, there is no difference to be noted. Unfortunately, in neither the Norris Basin nor the Alabama excavations were there any fully extended burials which were suitable for measuring the length of the skeletons in the graves, and our estimates can be based only on the long bones. We conclude, therefore, that although the Tennessee and Alabama areas represent cultures which are quite distinct, the inhabitants of these two regions were ethnologically very closely related so far as osteological measurements are concerned.

Pathology

In the descriptions of the skeletons in the preceding section of this report reference has been made to a number of cases in which the bones showed pathological conditions. A considerable amount of the osteological material showed such conditions, but in general the pathology was about the same as that which has often been reported from prehistoric material in the Mississippi Valley.

Various types of lesions which might represent one or more of a number of different diseases are common and it is seldom possible to make a positive diagnosis.

A common type of skull lesion is shown in plate 117, which shows the condition of the skull from skeleton No. 19 in Morgan County. Since in this same skeleton there was distinct evidence of a periostitis of the tibia, it is possible that this may represent syphilis. If this is the case it would indicate that the venereal diseases of today may have been present in pre-Columbian man in the New World.

One of the commonest of all of the types of malformations found in the Alabama material is the fusing of the vertebrae. This condition is perhaps most often noticed in the lumbar region, but may be found in any part of the spinal column (pl. 119, *a*).

In addition to the fused condition, the vertebrae often show an exaggerated lipping on the cephalic and caudal anterior edges and heavy deposits on the anterior surfaces. Examples of fused vertebrae and lipping are shown in plate 118, *a*. Such conditions of the vertebrae are usually assumed to indicate some form of arthritis or rheumatism, and, if so, a large number of the aborigines must have suffered from these diseases.

Lesions are very common in the long bones and apparently represent various types of periostitis, osteomyelitis, and different forms of bone destruction. Such conditions may have been due, of course, to any one of several causes, such at trauma, pyrogenic infection, tuberculosis, or even syphilis (pl. 119, *b*).

Another very common pathological condition found in the long bones is that of excessive exostosis. Such a condition is shown in plate 120, *a*, which is a photograph of the right femur and right tibia of skeleton No. 15 in the Limestone County site.

A very interesting type of dislocation is seen in skeleton No. 32 of the Lauderdale County site, in which the femora have apparently been dislocated from birth and a new contact surface has been developed in the innominate, the head of the femur never having been in its proper position in the acetabulum (pl. 120, *b*).

Another type of dislocation is shown in plate 121, *a*, which is a photograph of the left elbow of skeleton No. 20 of the Lauderdale County material.

Evidences of old fractures are not uncommon, particularly in the long bones and the ribs. A curious example of this is seen in skeleton No. 1 of the Lawrence County mound, in which both ulnae have been broken and healed. In the same photograph is shown another dislocated left elbow from skeleton No. 37 from the Morgan County village site (pl. 121, *b*).

Most of the skulls are more or less asymmetrical and this condition is probably due to the artificial binding of the head to produce an occipital flattening, but occasionally the asymmetry is caused by the malformation of some other part of the skull, as shown in plate 122, *a*, which shows the greatly deformed skull of skeleton No. 28 of the Lauderdale County mound in which the peculiar shape is due to a greatly depressed frontal.

Post-burial mutilations are sometimes found. Plate 122, *b*, shows the skull of skeleton No. 9 from the Madison County mound in which the supraorbital ridges have been gnawed away by some animal. This skull shows very well, also, the broad and more or less rectangular eye sockets and the evidences of pyorrhea in both the upper and lower teeth.

DENTAL PATHOLOGY

Pathological conditions in the teeth were very common and represented many of the diseases and malformations found in modern man. Among such malformations and anomalies may be mentioned supernumeraries and rotated premolars which are shown in plate 118, *b*.

Many of the teeth showed abrasions of various types. In some cases the cusps were entirely worn off and the enamel lost from the entire surface.

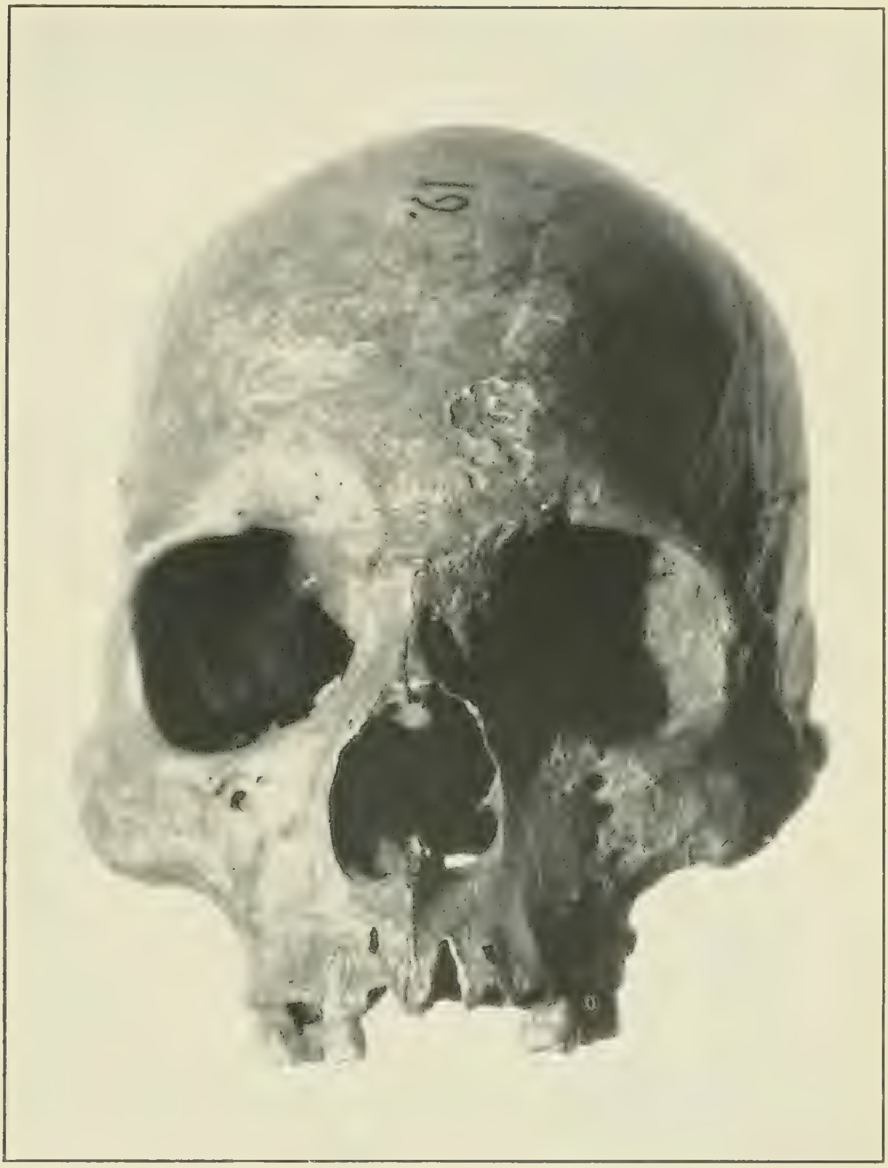
Irregular occlusion was likewise common. The usual type seemed to be a projection of the lower maxillary, so that the inner surface of the lower and outer surface of the upper incisors were much worn.

Various types of pyorrhea were apparent. The commonest form seemed to be an alveolar periodontoclasia generally found at the bases of the incisors and canines. Premolars and molars often showed serumnal calculae in which, in addition to the breaking down of the bony edge of the mandible, a considerable calcareous deposit had accumulated in the region of the germ line.

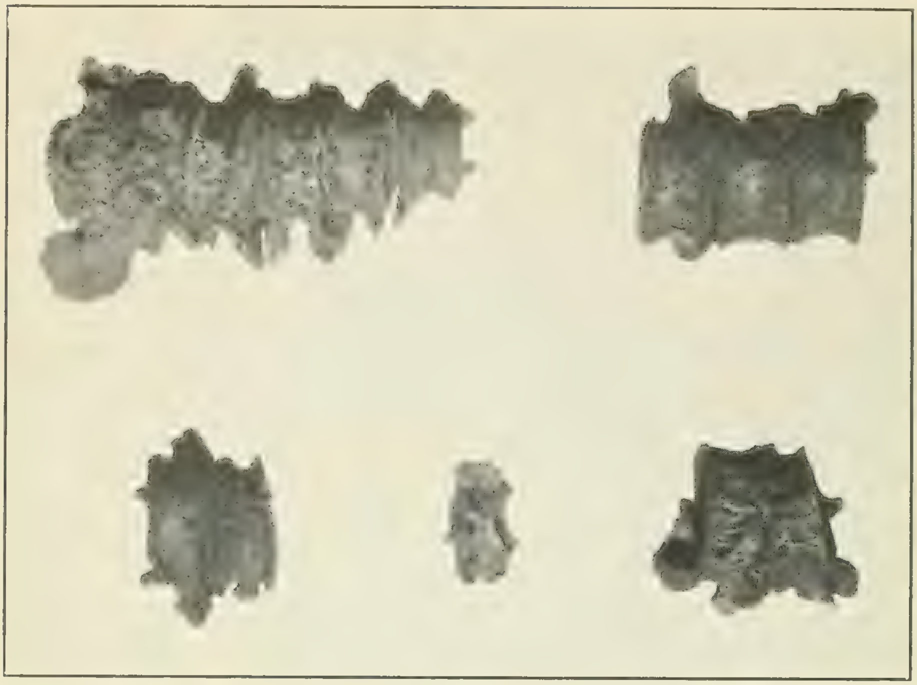
Impacted molars were occasionally found, the condition obtaining most often in the lower third molar.

There were some evidences of extractions and it would appear that, in the primitive method used, the tooth had usually been forced laterally out of the socket, the pressure being from the outside.

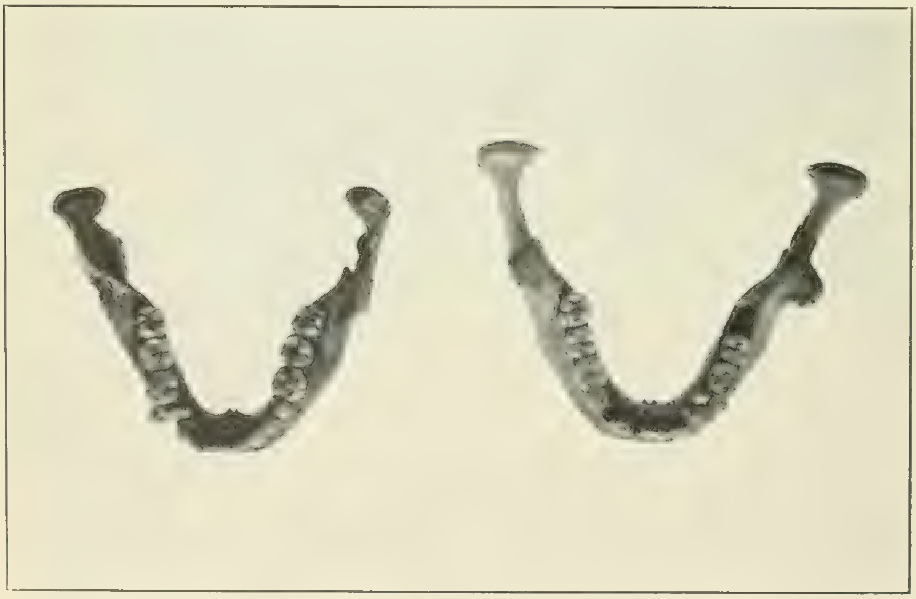
Caries of all sizes, shapes, and conditions were extremely common. In spite of the common notion to the contrary, it would appear that these primitive peoples had as many and as varied troubles with their teeth as do the civilized races of today.



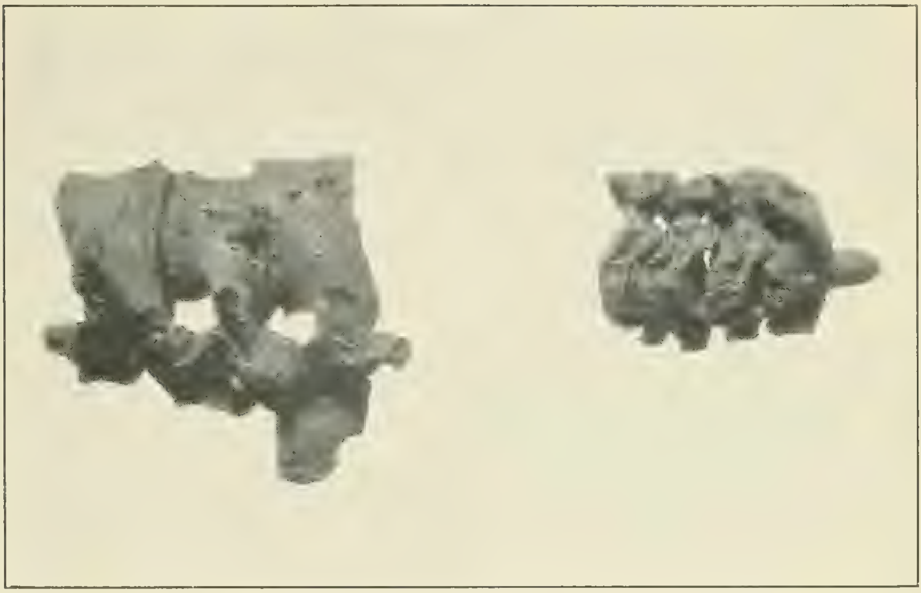
Lesion on frontal bone of Burial No. 19, Mg^v 2, Morgan County, Ala.



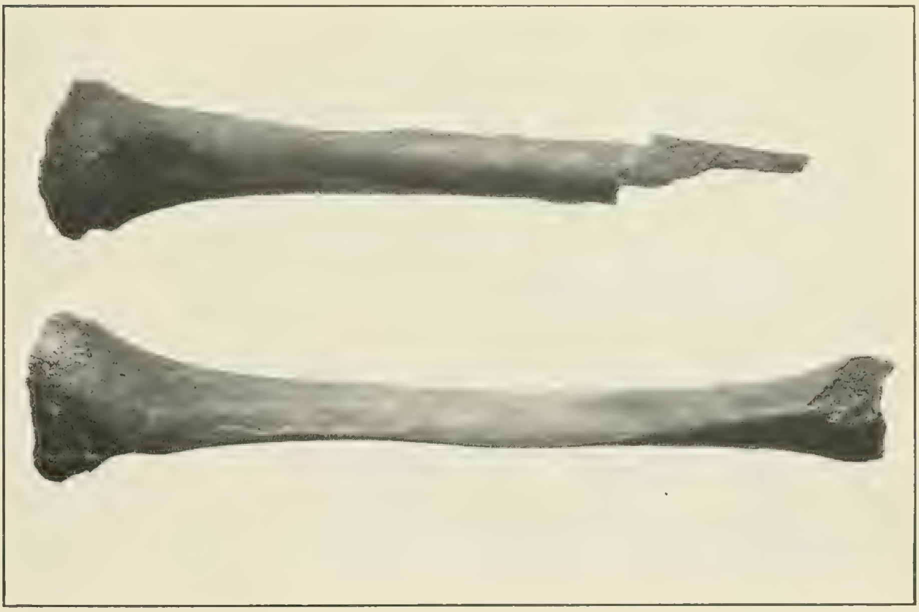
a, Fused vertebrae, Mg^v 2, Morgan County, Ala.: Upper left—Burial No. 32. Upper right—Burial No. 30. Lower left—Burial No. 5. Lower middle—Burial No. 5. Lower right—Burial No. 5.



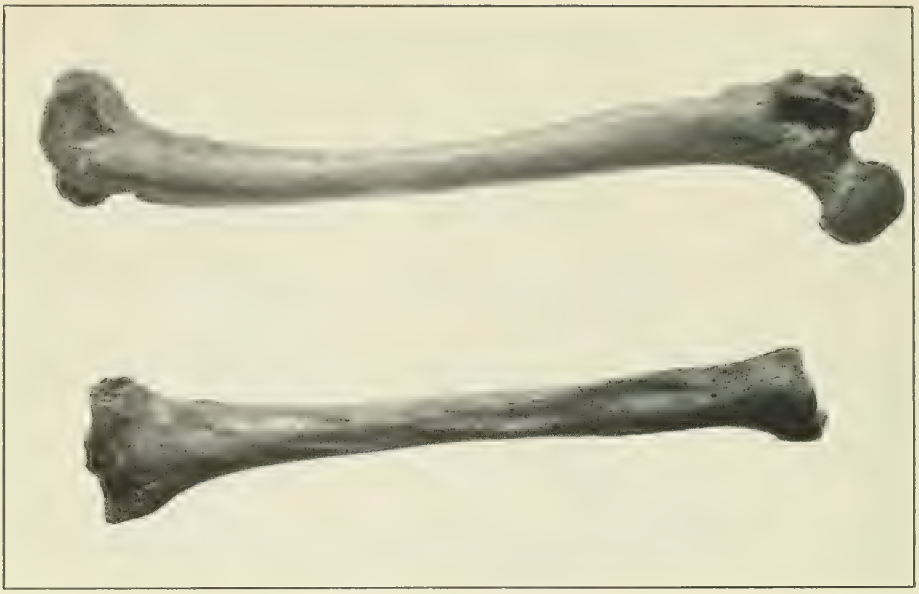
b, Left—Rotated premolars, Burial No. 3, Colbert County, Ala. Right—Supernumerary, Burial No. 26, Lauderdale County, Ala.



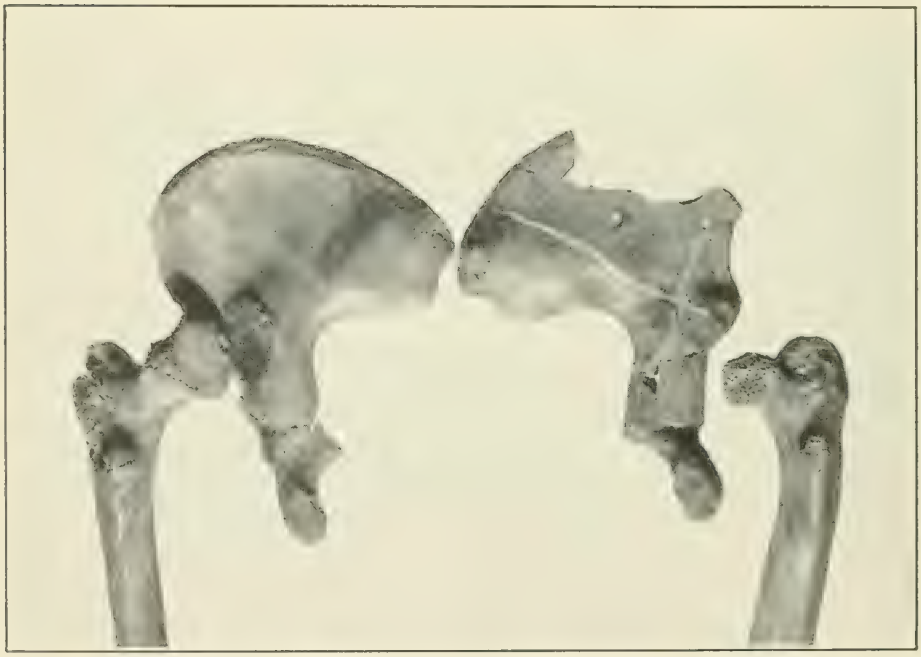
a, Lipping and fusing of vertebrae, Site Ma^{o} 4, Madison County, Ala. Left—Lumbar lipping, Burial No. 3. Right—Fused cervicals, Burial No. 2.



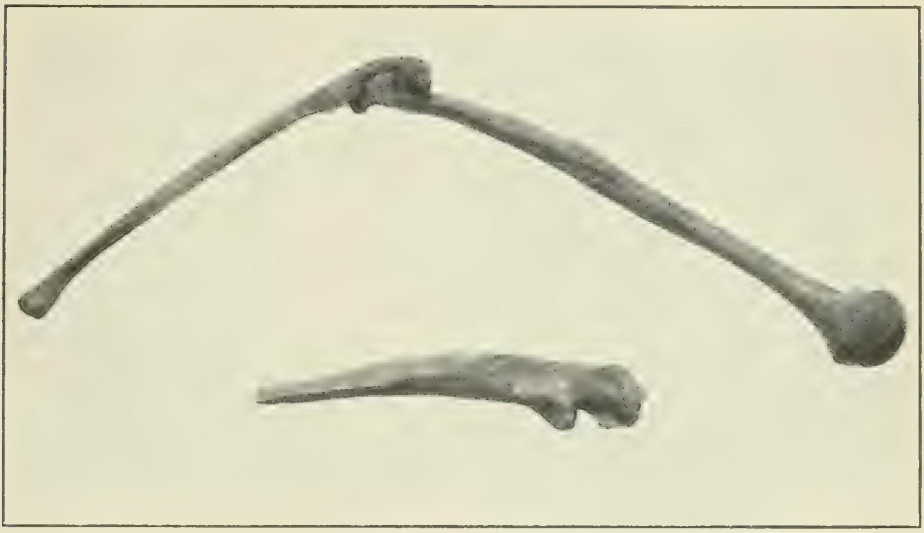
b, Tibiae showing lesions, Burial No. 19, Site Mg^{v} 2, Morgan County, Ala.



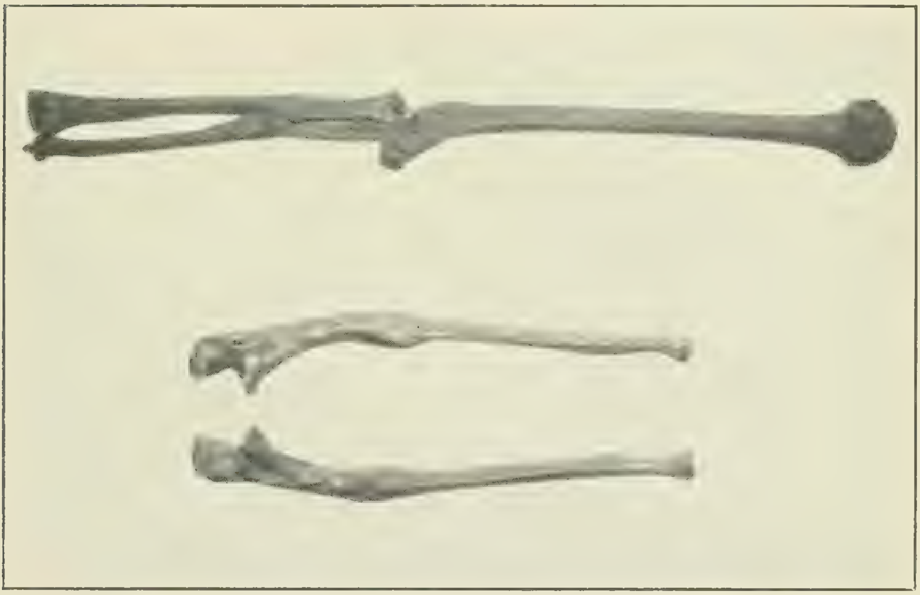
a, Exostosis, Site Li^v 36, Burial No. 15.



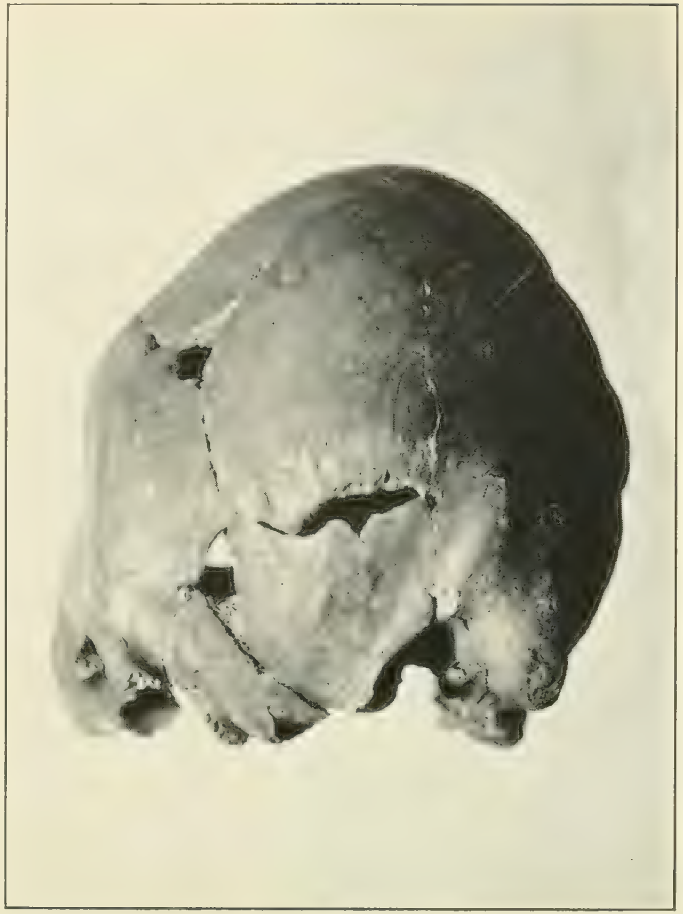
b, Dislocated femora, Burial No. 32, Site Lu° 86, Lauderdale County, Ala.



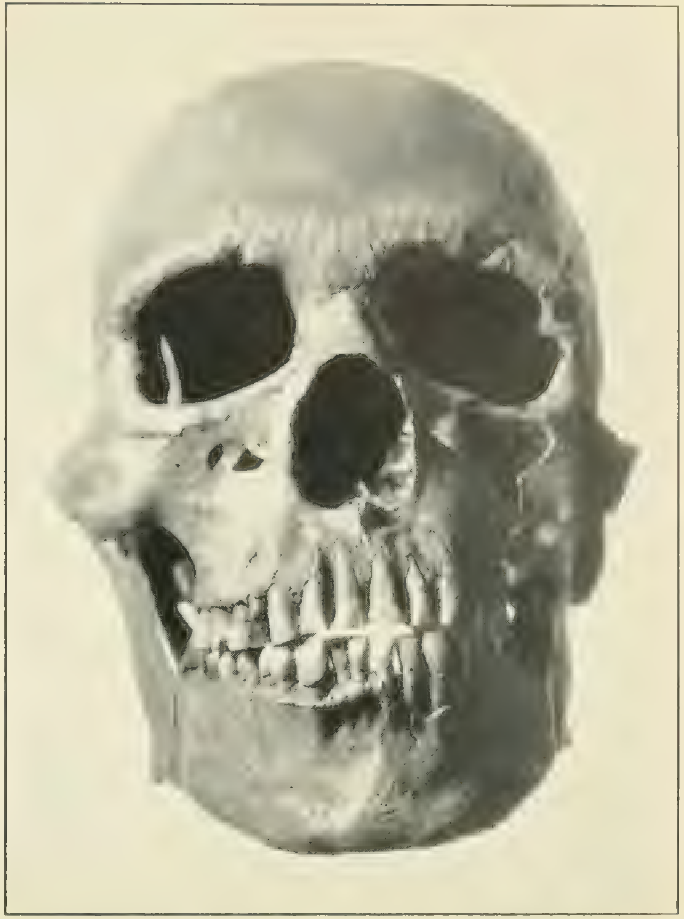
a, Upper—Dislocated elbow, Burial No. 20, Site Lu° 86, Lauderdale County, Ala. Lower—Exostosis of right ulna, Burial No. 26, Lauderdale County, Ala.



b, Upper—Dislocation of left elbow, Burial No. 37, Site Mgᵛ 2, Morgan County, Ala. Lower—Both ulna broken, Burial No. 1, Lawrence County, Ala.



a, Depressed frontal, Burial No. 28, Site Lu° 86, Lauderdale County, Ala.



b, Skull gnawed by animal, Burial No. 9, Site Ma° 4, Madison County, Ala.

REPORT ON THE CERAMICS OF WHEELER BASIN

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Introduction

The following discussion on the pottery from six sites in the Wheeler Basin is based on the sherds sent to the Ceramic Repository at the University of Michigan in the summer of 1934. The complete collection from any one of the sites was not available for examination and in some cases represented only a small percentage of the total number of sherds excavated. It is believed, however, that the Ceramic Repository received a typical series for each site. It was fortunate that the illustrated sherds from four of the sites were available but the sherds illustrating the different type from Ma° 4 were not included in the study collection.

The method followed in the study of the collection was a simple one. There was little data presented which suggested the possibility of stratigraphy at the sites and all of the sherds from any one site were grouped as though they were a cultural unit. Sherds that looked alike were placed together. During the sorting the reasons for the various grouping became apparent and the writing of the report is merely the verbal listing of the traits that are recognized in sorting the sherds.

The distinguishing characteristic that was most easily definable in the analysis of the sherds from these six sites was the type of temper. To many archaeologists in the eastern United States this will seem to be a methodological error because, as is well known, temper is not a reliable diagnostic trait. However, in the Wheeler Basin, as it is hoped may be demonstrated in the body of the report, the tempering material was of primary importance in recognizing and distinguishing the culturally complete ceramic types. Surface finish, decoration, and shape were the other important criteria by which the ceramic types were recognized and described. Once these types were clearly in mind it was possible to predict the type of temper for a sherd possessing one of the characteristic types of decoration or surface finish.

As the pottery was examined it became more and more evident that there were a number of distinct ceramic traditions belonging to several culturally unrelated horizons. It is recognized that a laboratory student is in no position to arbitrarily assign cultural levels to sites which seem to yield little data showing that such levels were present. For example, if the women who made the shell-tempered pottery at Site Lu° 86 lived there at the same time as those who made the sand and fiber tempered pottery one would expect to find some evidence of that cultural contact in the sherds. There is no such evidence. The pottery containing limestone and that containing clay or grit for the tempering material does show cultural intermixture to some extent and the two types occur at all of the sites reported upon in this study except at La° 13. While there is no such evidence of contact between the fiber and sand tempered divisions it is not inconceivable that in some way they have a cultural relation. These last two types occur together on three of the sites and are absent at the other three.

The discussion of the ceramics from each site should be read with these points in mind, since the conclusions will be based on the assumption that the viewpoint expressed in the foregoing paragraph possesses a key to the interpretation of the cultural history of the sites in question.

SITE Mg° 2

SAND-TEMPERED POTTERY

Fourteen of the sherds from this site are sand tempered. Of these, seven are rim fragments, while the other seven are from the body of the vessel. One of the rim pieces and one of the body pieces has horizontal rows of fingernail impressions which were probably made by the thumb and middle finger pinching the surface of the pot. The lip of the rim sherd is rounded and a bit wider than the rim. Three of the rim sherds have a horizontal row of small nodes on the outer rim a short distance below the lip. On two of these the nodes are but 4 mm in diameter, while the third example is twice this size. The nodes were made by punching a rounded narrow instrument from the inner surface, and a layer of pottery clay was then placed on the inside to cover up the holes on that surface. One of the small node sherds has a series of closely spaced, parallel, horizontal, shallow, medium wide, trailed lines made with a flattened point (pl. 83, *b*, sherd 1, cross section 1). The second small node sherd has a series of short, closely spaced, vertical, incised, medium deep grooves on the outer lip edge. Below the row of nodes there is a series of crudely made, roughly parallel, medium wide incised lines made with a rounded point. The lip is rounded (pl. 83, *b*, sherd 8, cross section 2). The sherd with the larger nodes has a decoration on the outer lip edge composed of narrow, medium deep, short incised lines. The horizontal grouping of lines beneath the row of nodes is made up of groups of two narrow, medium deep, incised lines spaced closely together and separated from each other by a space 4 mm wide.

Two of the rim sherds illustrated in plate 83, *b*, sherds 16 and 19 (cross section 3 is of sherd 19), seem to have incurving rims and a narrowed and rounded lip. I am not certain as to the exact shape of the rim. The lip has a series of closely spaced, shallow, narrow, transverse lines. Just below the lip on the outer rim there is a medium wide and medium deep horizontal encircling line delimiting the upper edge of a decorated rim panel. Within the panel there is a conjoined series of roughly equilateral-sided triangles 5.5 cm on a side. One triangle has the apex upward and the adjoining triangle has the apex at the base of the panel. Within each triangle a distinctive design has been incised. The design repeated in each triangle has its orientation corresponding to that of the triangle. The design is well executed and is repeated with pleasing regularity. The lines making up the design are medium wide and deep.

Another decorated sherd illustrated in plate 83, *b*, sherd 6 (sherd is inverted in photo) has a decidedly narrowed lip. The outer rim edge has a series of short, closely spaced, parallel, medium wide and medium deep gashes which slant slightly from left to right. Beneath this row there are two horizontal rows of closely spaced trianguloid gashes. Beneath this are two horizontal, medium wide, and medium deep lines spaced 5 mm apart.

One body sherd has narrow, medium deep, rectilinear incised lines, but the design is not apparent. Two of the body sherds are "feet" of the type illustrated in plate 28, *a*, sherd 4.

FIBER-TEMPERED POTTERY

Only three sherds in the collection available for study have fiber as the aplastic. Two of them, one of which is the rim sherd illustrated in plate 83, *b*, sherd 4 (cross section 4) have a dentate stamp decoration. The rim is straight and the lip is narrowed and rounded.

LIMESTONE-TEMPERED POTTERY

The majority of the pottery found at this site had limestone fragments as the added aplastic. The sherds with this type of tempering material can be further divided on the basis of the surface treatment.

Twelve rim sherds and 49 body sherds have smoothed to smooth exterior surfaces. There is a tendency for those sherds having smooth surfaces to be the thinnest of the limestone-tempered type. Eight of the rims are incurving while the others are straight. The vessels were probably jars with a constricted mouth (cross section 5). The lips on the incurving rim sherds are flattened and rounded while the lips on the straight rim sherds are narrowed.

Three body sherds have impressions left by a check-stamp paddle (pl. 83, *b*, sherd 2).

One vessel is represented by three sherds, two of which are rim sections. The largest sherd is figured as No. 13 in plate 83, *b* (cross section 6). The upper part of the body slants outward and the lip is rounded. The surface markings were probably made by a grooved paddle that was dragged across the surface, leaving roughly parallel, grooved ridges. The majority of these grooves are approximately horizontal and only on one sherd are they on the bias, and on that one they slant from right to left.

Another vessel is represented by 18 body sherds and 2 rim sherds. The rim is straight and the lip is narrowed and rounded and is slightly everted. The texture is medium fine and the hardness 2 to 2.5. The exterior surface has a carved paddle design consisting of long parallel grooved lines ending in half circles which reverse the direction of the groove. These grooves run vertically on this vessel.

Two rather large body sherds have a brushed exterior surface.

Five rim sherds and 23 body sherds have a cord-wrapped-paddle exterior surface. The cord impressions are parallel and vertical, with the individual threads being distinct. Four of the rims are straight and slant inward. Four of the lips are rounded, two of which are everted. One of the straight rims has a flattened, slightly everted lip, plate 83, *b*, sherds 5 and 17 (cross sections 7 and 8). The fifth rim is incurving and belongs to a constricted-mouth pot. The lip is narrowed and rounded. This group of sherds is noticeably thicker than the smooth surface group. Two basal portions indicate a semiconoidal base.

Clay-Tempered Pottery

This type of tempering is represented by five rim sherds and 34 body sherds. Two of the rims curve slightly inward, have rounded lips and a cord-wrapped-paddle exterior surface, plate 83, *b*, sherd 15 (cross section 9). The individual cords are rather large and the individual impressions overlap to some extent. The impressions were applied vertically. Three of the rims have smoothed exterior surfaces. Two of these have incurving rims while one is straight (pl. 83, *b*, cross section 10, sherd 12). Two of the lips are narrowed and rounded while the third is rounded. Eleven of the body sherds have cord-wrapped-paddle impressions while the remaining 23 are smoothed. Two of the body sherds show that they were constructed by the coil method. One of them is a portion of a lower body that probably had a flattened base.

SITE Lu° 86

SAND-TEMPERED POTTERY

This site has the largest number of sand-tempered sherds of any of the Wheeler Basin sites represented in the study collection. There are 15 rim sherds, only two of which are plain. The most common decorative treatment of the rim is represented on plate 11, *b*, sherds 7, 12, 13a, 24, 27, and 28. There are two sherds in the collection of this type that are not illustrated, making a total of eight. Sherd 7 is the only one which has the perforation completely through the sherd, and sherd 28 (cross section 1) is the only one which has the holes visible on the inner surface. Sherd 7 has been subjected to so much weathering that the secondary features, except for the holes, have disappeared. Constant characteristics on the remaining seven sherds are short, vertical, closely spaced, narrow, shallow lines on the outer lip edge; the placing of a row of closely spaced nodes a short distance below the lip; and the use of horizontal incised lines below the row of nodes. There is a very slight outward flare in the upper section of the rim and a narrowing of the rim thickness as the rounded lip is reached. The nodes are small (4 to 5 mm diameter) on all the sherds, except No. 28, where they are 1 cm in diameter. Two of the sherds have medium wide, shallow, incised lines made with a rather blunt point; four have medium wide, shallow lines made with a rounded point; and sherd No. 28 has two narrow, deep, more widely spaced lines. Only sherds 27 (cross section 2) and 28 show a design beneath the above discussed horizontal lines, which may well be due to the fact that whole vessels were not available for study.

Only one rim sherd has the fingernail decoration so common on the decorated body sherds. Sherd 23 (cross section 3) on plate 11, *b*, is the only one with a rim shape, lip treatment, and decoration, which resembles sherds 16 and 19 in plate 83, *b*. Two rim sherds at this site are similar to sherd 6, illustrated in plate 83, *b*.

Eighteen decorated sherds without lips have as their outstanding characteristic the use of parallel incised lines. The lines are most commonly medium wide and shallow, and are made with a rounded blunt point (No. 12, pl. 11, *a*). Sometimes the lines may be similar

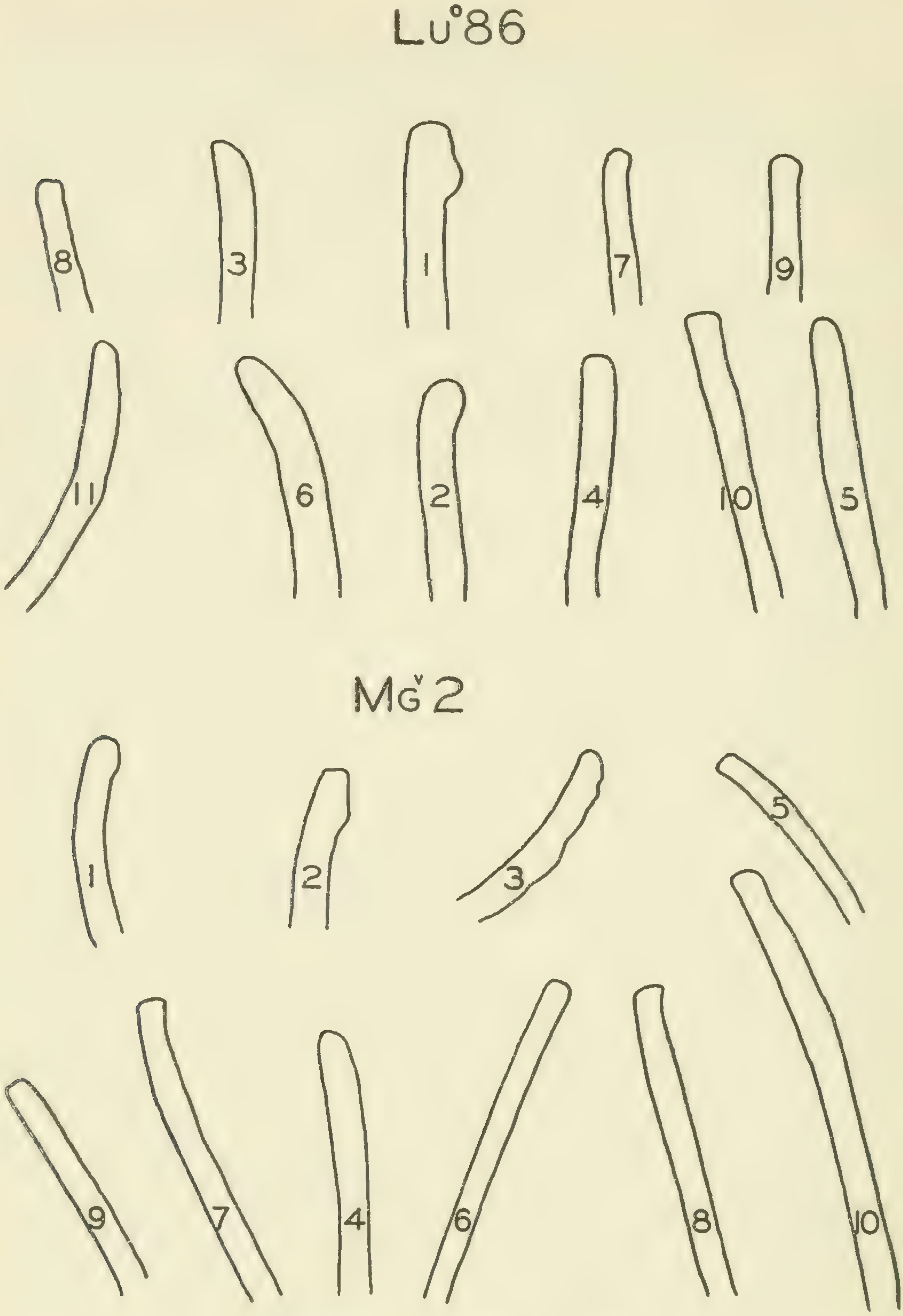
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Figure 20.—Cross-section sherds.

to those on No. 21a of the same figure, which are narrow and medium deep.

Thirteen sherds have geometric designs, usually rectilinear, made with the same type of incised lines as shown by No. 2 in plate 11, *b*, and Nos. 8, 16, and 26 in plate 11, *a*.

Another group of decorated sherds combines the use of incised lines outlining smoothed areas and rouletted or small punctate impressed areas. This type is represented by sherds Nos. 3 and 5 in plate 11, *b*, and Nos. 2 and 4 in plate 11, *a*. This concept has a wide distribution in southeastern ceramics. Sherd 26, in plate 11, *a*, has probably its closest connection in the literature with one illustrated by C. B. Moore [13] from Clarke County, Ala.

The largest group of decorated sherds has the fingernail or fingertip decoration on 43 sherds. These impressions are usually arranged in horizontal, parallel rows. The only plain instance of the combination of the fingernail technique with the use of incised lines is on sherd No. 15 on plate 11, *b*.

Four sherds represent single feet of a roughly conical shape used on a triangular or quadrilateral base. The exterior surface about these four feet bears no decoration and is smoothed. There are 114 smoothed surface body sherds belonging to this ware.

FIBER-TEMPERED POTTERY

The sherds in this group can be classified together as a distinct type on the basis of practically every ceramic characteristic. The carbonization of the long, thin threads of fiber leaves an identification mark in the pottery fabric which at once sets these sherds apart as a distinct group. There are only eight rim sherds in the collection. Four of these have practically no decoration, the rims are slightly incurving, and the lips are rounded to narrowed and rounded. The largest rim section is composed of No. 16 on plate 11, *b*, and a second sherd, No. 1, on plate 11, *a* (cross section 4). The rim is straight and the height of the lip surface is uneven. The lip shape is rounded. The decoration consists of small ovoid, punctate impressions that were not applied in a systematic pattern. The decoration on No. 29 on plate 11, *b* (cross section 5) was made with a small oval stamp and a small rectangular stamp. The rim is straight and the lip is narrowed and rounded. Sherd No. 10, on plate 11, *b*, has vertical striations caused by a pointed stick. They are closely and irregularly spaced. A sporadic vertical row of punctate impression is also discernible. The rim is slightly incurving and the lip is narrowed and rounded with narrow, shallow, closely spaced transverse gashes. There is one body sherd that probably belonged to this vessel. Sherd 13 of plate 11, *a*, has a conical perforation just below the lip, made from the exterior surface. The irregular, roughly horizontal, incised lines are narrow and medium deep. The rim is straight and the lip is narrowed and rounded.

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[13] Moore, C. B. Certain Aboriginal Remains of the Lower Tombigbee River. Journ. Acad. Nat. Sci. Phila., vol. 13, pt. 2, p. 266.

The decorations on the body sherds show little more variation than did the rims. Three sherds, including No. 24 on plate 11, *a*, have the roughly parallel, irregularly placed, narrow, medium deep incised lines. Four have the closely spaced circular punctate marks similar to No. 5 of plate 11, *a*. Three sherds, including Nos. 13 and 14 of plate 11, *b*, have dentate stamp impressions applied in roughly parallel rows. Eighteen sherds have a decorative pattern similar to Nos. 17 and 18 of plate 11, *a*, that are probably single punctate impressions arranged in a pattern resembling a stamp, or they may possibly be a stamp impression. Four sherds have what appears to be a stamp impression with the lines so closely spaced that the result is similar in appearance to that made by the type of fabric found on the limestone-tempered sherds as represented in No. 1 on plate 11, *b*. One sherd (cross section 6) has a smooth surface, which is unusual for this ware, and is somewhat harder than the other sherds. The decoration consists of parallel rows of irregularly placed, very small, circular punctations, spaced approximately 5 mm apart.

Ten body sherds are without decoration.

Limestone-Tempered Pottery

CHECK-STAMP DECORATED SHERDS

This subtype is represented by 36 body sherds and by one conical-footed base and two rim (?) sherds (cross section 7). The impressions are small square or rectangular shaped, and sherd 21 of plate 11, *a*, has the best preserved impression in the group.

FABRIC-IMPRESSED SHERDS

There are 6 rim sherds with a fabric impression and 103 body sherds. The rims are straight and the lips are flattened and rounded. All of the lips are slightly everted, which was probably caused by the flattening of the upper surface while the clay was still plastic. The fabric impression is of the type that is rather difficult to identify correctly. It probably represents a plain plaiting technique with a wide warp and closely spaced weft. At any event, sherds with this type of impression are consistently similar in site after site in the Southeast.

SMOOTHED-SURFACE SHERDS

There are 174 smoothed-surface body sherds with small limestone fragments used for tempering material. They differ in no respect from the fabric-impressed and the check-stamp sherds except in the treatment of the exterior surface. The texture of the whole group is predominantly medium fine. The majority of the sherds are somewhat pockmarked or "hole" tempered, due to the soil acidity. Most of the specimens are harder than gypsum, but those that are most heavily eroded can be scratched by that mineral.

CLAY AND GRIT TEMPERED POTTERY

There are more sherds of this type than there are of any of the other ceramic types found at the site. On some of the sherds the particles of clay are clearly distinguishable from the body of the clay by color and by shape. Some of the sherds, however, do not so clearly reveal the tempering material, and there is a possibility that clay was not exclusively used as the tempering material. There are 1,063 body sherds, the majority of them having cord-wrapped paddle impressions on the exterior (pl. 11, *a*, sherd 23). The cord impressions are in various degrees of clarity. A small minority of the sherds seem to have been intentionally smoothed on the outer surface.

There are 46 rim sherds (cross sections 8, 9, and 10) with cord-wrapped paddling on the exterior surface in varying degrees of plainness (pl. 11, *b*, sherd 25), and 6 sherds with a smooth surface. The rim shape is either straight or slightly incurving. It is difficult to tell the exact shape of the rim because many of the fragments are quite small. The lips on 33 of the cord-wrapped paddled vessels are flattened and about half of them have cord impressions on the lip surface. The remaining 13 rim sherds have rounded lips. The cord impressions on the rim sherds are almost invariably vertical and parallel, with little overlapping. The individual cords are not particularly deeply impressed, and the weathering processes in the ground have partially obliterated them. Vessels of this type were probably made by the coiling method, as a sufficient number show rounded convex or concave surfaces in their horizontal cross section. One rim fragment is almost certainly the width of the last coil to be applied. It is 13 mm in height and the lower surface is concave.

Four body sherds of this type, whose position in the vessel was probably near the lower section of the rim, have a single, narrow, medium deep, horizontal incised line.

The six rim sherds possessing the same texture and tempering material, but with smooth surfaces, have rounded to narrowed and rounded lips on four sherds and flattened and rounded on two. The two largest rim sherds are definitely incurving, and the other four are too small to make an accurate statement. The largest incurving, smoothed-surface rim has clay temper, while the second largest sherd has crushed rock.

SHELL-TEMPERED POTTERY

There are 58 body sherds, one pottery disk, and three rim sherds in the study collection with this type of temper. This is also a distinct pottery complex. The three rim sherds at hand are smooth-surfaced, incurving rims with narrowed and rounded lips, and no decoration (cross section 11). The large vessel shown in plate 16, *b*, is associated with this group, which belongs ceramically to the Mississippi pattern and perhaps more closely to the Tennessee-Cumberland division than to any other.

SITE Ct^{v} 17

SAND-TEMPERED POTTERY

This type is one of the most distinctive and easily recognized in the Wheeler Basin. Tempering material, surface finish, and decoration set it off from all of the other pottery types and will make its recognition a simple matter wherever it is found. When a sherd is picked up in the hand, one feels as though he had hold of a piece of sandstone. Examination of the sherd in cross section shows a high percentage of sand present. Certainly more than half of the matrix is composed of sand. The texture is medium fine to medium. Almost all of the sherds can be scratched with the fingernail. The exterior and interior surfaces are fairly well smoothed. At least 10 of the sherds show good evidence in the cross section of having been constructed by the coil process or built up by added bands of clay.

There are two separate design concepts found on these sherds. The first type has individual impressions arranged in rows. These impressions appear to have been made in some cases by pushing the fingertip into the moist clay so that a semicircular ridge is raised on the side of the impression toward which the force was applied (pl. 30, *b*, sherd 25). Half or three-quarter moons that could have been made with the fingernail are also common (pl. 30, *b*, sherds 10, 23, and 26). The fingertip and fingernail were also used to make short, rather circular impressions with the protruding ridge on one side of the impression. One sherd has impressions that could have been made with the thumb and middle finger acting as a pincer, since the impressions are paired at a slight angle to each other and the raised ridges appear next to each other (pl. 30, *b*, sherd 6). On four of the rim sherds these fingertip impressions are placed in rows horizontal to the lip, three of these having the raised vertical ridge on the left (pl. 30, *b*, sherd 2, cross sections 1

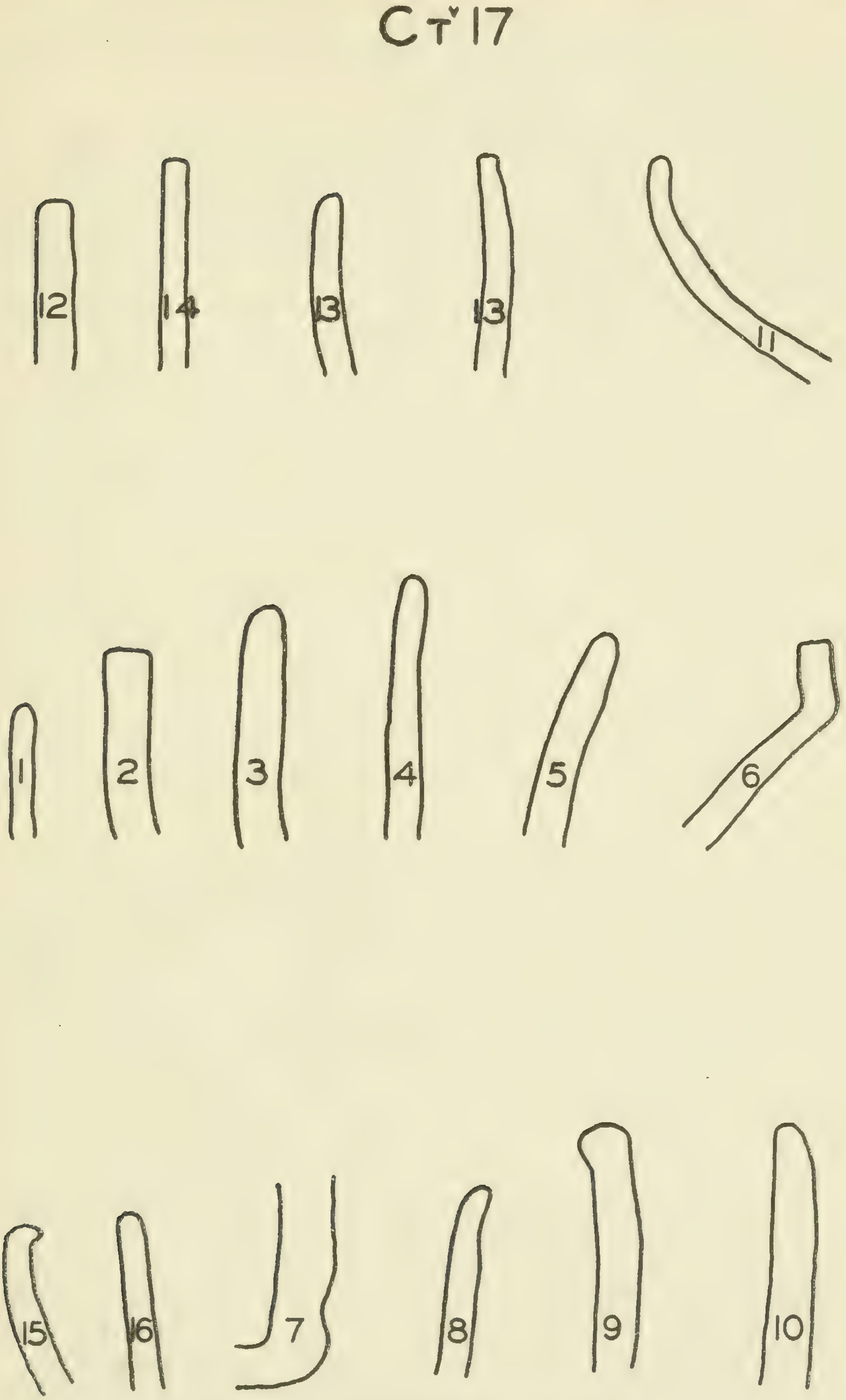
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FIGURE 21.—Cross-section sherds.

and 2). One rim sherd and three body sherds have a decoration of a character similar to that under discussion, which was called "pineapple" by the foreman in charge of the site (pl. 30, *b*, sherd 24, cross section 3).

The second major design concept is based on the use of parallel incised lines. These are sometimes placed in squares, rectangles, or triangles that are outlined by incised lines. Two rim sherds have a smoothed band beneath the rim that is terminated by a horizontal incised line (pl. 30, *a*, sherd 27, cross section 4). Beneath this line there is a space devoted to alternate smooth areas and areas filled in with parallel incised lines. Another rim sherd has a medium wide, medium deep incised horizontal line just below the lip. There is a band of cross-hatched incised lines for the next 2 cm, which is in turn terminated by a horizontal line. Beneath this encircling line is a decorated band composed of a group of short, closely spaced, narrow and shallow horizontal incised lines. On both sides of this group of horizontal lines lies a series of similar but vertical incised lines (pl. 30, *a*, sherd 26).

Only one sherd has a combination of the incised and fingernail decoration. It is a rim sherd, straight and with a narrowed and rounded lip (pl. 30, *b*, sherd 12, cross section 5). Just below the lip there is a row of large, rather deep thumbnail impressions with a raised ridge on the left of the almost vertical impression. Below this row the rim has a rough chevron design composed of groups of medium wide, shallow, incised lines.

A very distinctive type of ornamentation is found on but one rim sherd at this site. It is more common at Lu^{o} 86 and Mg^{v} 2 (pl. 30, *a*, sherd 24). The lip is rounded and slightly outcurving. The outer lip edge has a series of closely spaced, short, narrow and shallow, vertical incised lines. A horizontal row of small, closely spaced nodes is located 15 mm below the lip. Since the interior surface is smoothed and shows no trace of the way in which these nodes were formed, it is surmised that after the small cylinder, 2 mm in diameter, was punched from the inside to form the node on the outer rim the inner surface was given a coating of clay to cover up the holes. This added coating is 5 mm thick, while the rim at this point is 12 mm thick. Just below the row of nodes are two horizontal, medium wide, shallow incised lines. The entire design is not present.

A small incurving rim sherd, probably a bowl, has closely spaced, narrow, transverse incisions on the lip (pl. 30, *a*, sherd 6). The decoration on the rim consists of closely spaced, narrow and shallow incised lines arranged in various rectilinear forms and bounded by short, closely spaced punctations. This design area is separated from a punctate design by a narrow and shallow curvilinear line and a smoothed area.

There are two small rim sherds with the same sandy surface "feel," but with a finer texture, that have small, tightly twisted cord impressions on the outer rim just below the lip (pl. 30, *a*, sherd 19). On one of these the lip is flattened and slightly everted (cross section 6), and the cord impressions are closely spaced and in horizontal rows. The rim is short, straight, and slants inward at about an 85° angle. The shoulder line is accentuated and has a horizontal row of closely spaced very short vertical lines. Beneath the shoulder the body slants inward at about an 80° angle. The interior surface probably had a thin coat of red paint. On the other rim the lip is rounded to almost flattened. The inner lip edge has a row of closely spaced, short, narrow and medium deep, vertical incised lines. The outer lip edge has a row of small, ovate medium impressions. The decorated band below this row is at least 2 cm wide and has rather well-defined, small, closely woven cord impressions, closely spaced.

There are 57 sherds with the fingertip or fingernail impressions and 50 with parallel incised lines, rectilinear designs made up of short incised lines. A few sherds show the use of small punctations. There are 36 smoothed body and basal portions, the latter including 4 portions of conical feet (pl. 28, *a*, sherds 1 and 4). One of these is broken and clearly shows that the foot was shaped and then molded onto the base.

FIBER-TEMPERED POTTERY

Sherds with this type of temper are in a minority at this site but represent a distinct ceramic group. The cross section presents a vermiculated appearance, and on some of the sherds the surface also betrays the fiber temper by the fine hair-like casts of the fiber. On the majority of the sherds the fiber has become carbonized. Sherds of a somewhat similar temper and texture from near Beaufort, S. C., and Savannah, Ga., are tempered with Spanish moss. The hardness of this group of sherds is 2 to 2.5.

The exterior of the sherds is smoothed while the interior surface received very little attention. There was no decoration on 28 of the body sherds and on 5 of the rim sherds.

Decoration on these sherds is limited almost entirely to two related types. Three rim sherds and 12 body sherds have a dentate stamp impression (pl. 28, *a*, sherds 2, 8, 10, 13, 15, 16). The impression on the sherds is a row of small rectangles. By repeating the stamp in roughly parallel rows the design is produced. On all of these sherds the stamp has been applied in a very haphazard manner, so that in many cases the individual impressions are not parallel to one another, and they present a disordered appearance. The rows on the three rim sherds were placed at an angle. On two of them the impressions slant from right to left, and on the other from left to right. One of the nonrim sherds is a fairly good sized section of the lower body and base (cross section 7). The base is flat while the wall slants outward at a very small angle.

Another style of decoration produced a similar appearance but was produced by a different technique (pl. 30, *b*, sherds 1, 13, and 22). A small rounded point was used to produce small punctate impressions, some of which were applied in roughly parallel rows and some with very little pattern. When the punctate impressions were arranged with a degree of regularity and spaced fairly close together, the result was not unlike that of the stamp decorated sherds. There are two rim sherds probably of the same vessel and nine body sherds with this identifying characteristic. One rim sherd and one body sherd have a number of short, incised lines on the outer surface that were placed on the surface in a haphazard manner.

The rims of this type are straight and the lips are narrowed and rounded on the stamped sherds (cross section 8) and rounded on all but one of the other rims (pl. 30, *b*, sherd 1, cross section 9). There is a smoothed surface rim sherd with a narrow and rounded lip which has a hole 7 mm in diameter 2 cm below the lip.

SHELL-TEMPERED POTTERY

Shell-tempered sherds are in a decided minority and probably represent a brief occupation by a different group of people than the ones who left the other ceramic types at this site. Thirteen of the sherds have the shell fragments as they were placed in the vessel, while 14 of the sherds are "hole" tempered, resulting from the leaching of the shell particles. The "hole"-tempered sherds can be scratched by gypsum, while the shell-tempered ones are scratched by the fingernail. One sherd out of the 27 has impressions of the cord-wrapped paddle on the exterior surface. These impressions are of a small, tightly woven cord. The other sherds have a smoothed surface. The texture of the sherds is medium fine. There are only two rim sherds present, both belonging to medium size straight rim pots with narrowed and round lips (cross section 11).

CLAY-TEMPERED POTTERY

There are 9 rim sherds and 70 body sherds that contain small fragments of a different clay than that making up the majority of the matrix. These clay particles may be potsherd fragments but definite identification must await microscopic examination. Practically all of the sherds have a hardness of 2 to 2.5. One rim sherd has a hardness of 2.5, another rim with a smooth surface has a hardness of 3. The texture is medium fine to medium. The exterior surface of the rim sherds is smoothed except for the one already mentioned. The body sherds are all smoothed except eight which have the impression derived from a cord-wrapped paddle, and two which have an impression similar to that left by the application of netted fabric to the prefired clay. One of the body pieces is a rather large flattened basal pot. This sherd shows that the base was formed and the next portion of the vessel was added in the form of a coil. Five of the body sherds show good evidence in their breakage lines that they had been formed by the coil technique. The rim sherds are so small that little can be said about the type of vessel represented. One is probably a bowl with a rounded lip, and there are two rows of trianguloid punctate impressions just below the lip (pl. 30, *b*, sherd 19). The apex of the impression is to the left. Five of the rims are straight and have flattened lips (cross section 12) and two are straight to slightly incurving with rounded lips (cross section 13).

There are 28 body sherds and 4 rim sherds with this type of tempering which have the small check stamp impression on the outer surface (pl. 28, *a*, sherds 9, 12, 17, and 20). All of the checks are small squares or approximate squares. Three of the rim sherds probably are from one vessel. Both of the vessels represented had a very thin added strip of clay on the outer rim which extended 25 to 30 mm below the lip. The paddle impressions were placed over the entire body up to the lip. The lip on these two vessels was rounded and approximately the same thickness as the rim.

LIMESTONE-TEMPERED POTTERY

Pottery fragments with this type of temper make up the largest single group of sherds in the Ceramic Repository from this site. Nine of the sherds have imprints of the check paddle. None of these examples are rim sherds. Only one of them is not "hole" tempered to greater or less degree. One sherd with limestone temper is in a very good state of preservation. The exterior surface is covered with combed or brushed striations and it is the only sherd at the site with this type of surface treatment.

The majority of the sherds with limestone temper have a basketry impression on the outer surface (pl. 28, *a*, sherds 3, 6, 19, and 21). This is the type of weave with a wide warp and a closely woven over-and-under weft arrangement plain plating according to

Miner's[14] classification. Nine sherds are rims and these are all vertical. The lip of one is everted (cross section 15). Three of the lips are narrowed and rounded, three are rounded (cross section 16), and three are flattened and rounded. There are 142 body sherds present in this collection, and the majority of them have suffered erosion of the limestone fragments, producing a "hole" tempered effect. The breakage lines on about 10 percent of the sherds indicate that the vessels with this type of tempering and with fabric of this weave were made by the coil process.

SITE Li^v 36

Clay and Grit Tempered Pottery

CORD-WRAPPED PADDLE AND SMOOTH-SURFACE SHERDS

The sherds classified under this heading represent the largest single group at the site. It has been rather difficult to try to make finer divisions within the group because of the difficulty in accurately determining the tempering material for the various sherds. Many of the sherds have small pieces of what may be broken up potsherds, or merely burned clay. A few sherds have small limestone fragments and still others have scattered grit fragments. Since the remaining characteristics are relatively the same, the type of temper within the group does not assume diagnostic value. The texture ranges from medium fine to medium coarse, with the majority of the sherds having medium texture. A few sherds are as hard as 3, but the majority are about equally divided between 2.5 and 2–2.5. None of them are as soft as 2 and when scratched by the fingernail a good deal of pressure is required.

The two following subdivisions were based on differences of rim shape. Twenty-nine of the rims curved inward, as can be seen in the cross-section drawing. On a few examples the rim is quite short and has a definite angle at the juncture with the body (cross section 1). Most of the incurving rims, however, have a gradual curve rounding into the body (cross section 2). The outer surface of 8 of the sherds is smoothed, while 21 are covered with cord-wrapped paddle impressions. These impressions slant from left to right on 2 of the sherds, while on the other 19 the impressions are vertical. Ten out of the 29 incurving rims have narrowed and rounded lips, 11 are rounded, and 8 are flattened and rounded. A slightly everted lip occurs on one of the narrowed and rounded lips and on one of the flattened and rounded lips. One of the sherds with smoothed outer surface has an added rim strip which is very thin and extends 2 cm below the lip. It is one of the few pieces with limestone as the sole aplastic.

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[14] Miner, Horace. The Importance of Textiles in the Archaeology of the Eastern United States. American Antiquity, vol. I, No. 3, January 1936, p. 181.

There are 62 rims whose shape is either slightly flaring or straight. Twenty-five of these have cord-wrapped paddle impressions on the outer surface (cross section 3 and sherd 4 on pl. 79, *a*) while the remaining 37 are smoothed. Only one sherd had cord impressions that slanted from left to right while the others are vertical.

Six of the lips on these 62 rims are narrowed and rounded, 25 are rounded, and 31, or 50 percent, are flattened and rounded. A slightly higher percent of the cord-impressed sherds have a flattened lip. The lip was slightly everted on 6 of the flattened and rounded group, on 9 of the rounded lips, and did not occur on the narrowed and rounded lips. Six out of the 62 rims have a thin added band on the upper rim (cross section 4). This band is 2 to 3 cm in width.

An examination of the cross section of the 91 sherds belonging in this type disclosed 9 that showed rather definite evidence in their line of junction that they had been constructed by the coil method.

Three of the sherds included in the above group had closely spaced notching on the outer rim lip similar to the one shown in plate 79, *b*, sherd 5 and cross section 5.

DECORATED SHERDS

The use of a hollow cylinder to impress a decoration on the exterior surface was found on four sherds, three of which are shown in plate 79, *b*. These three sherds have incurving rims. The one on the right, sherd 7 on the photograph and cross section 6, has a flattened and rounded lip which is on the lower left corner of the sherd as it is shown. The horizontal lines encircling the vessel and the paired diagonal lines forming the smoothed triangles are narrow and medium deep. A row of hollow cylinder impressions is placed between the two paired lines. The interior is heavily smoke-blackened and has prominent horizontal smoothing striations. The lip on the other two sherds is rounded (pl. 79, *b*, cross section 7, sherd 6).

A sherd which could have been included in the main group of 91 has the same basic characters but also has on its flattened lip a series of closely spaced transverse incised lines. Just beneath the lip on the exterior surface there is a horizontal band formed by two narrow, medium deep incised lines spaced 6 mm apart. Within this band there is a series of closely spaced, left to right slanting lines of the same nature. Another sherd with medium fine texture and grit temper has a rounded, everted lip and a smoothed outer surface. Seventeen mm below the lip there is a horizontal band 2 cm wide outlined by two narrow, medium lines containing a horizontal series of triangles, the incised lines within the tri-

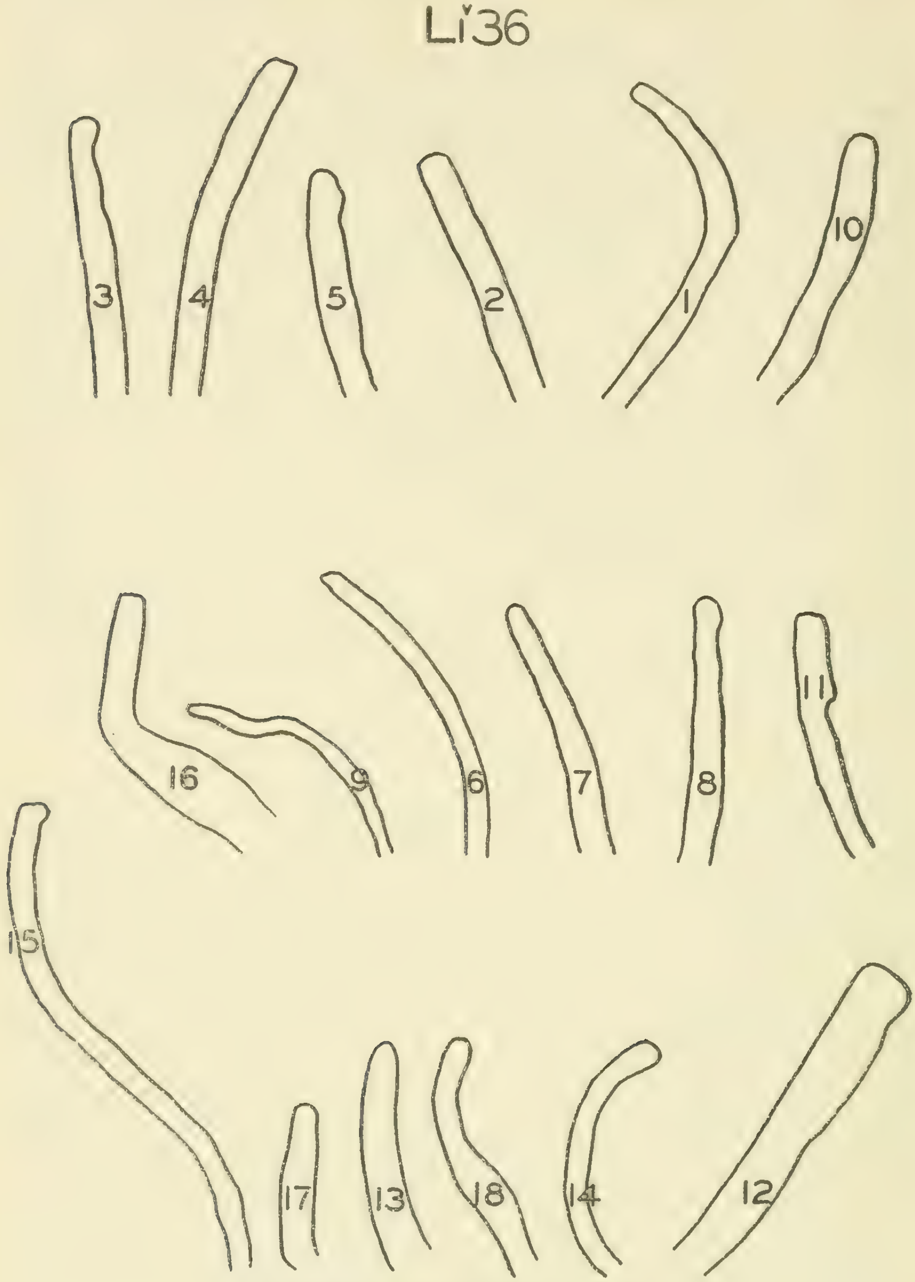

Figure 22.—Cross-section sherds.

angles being parallel to one of the sides. It is not an Iroquois sherd nor does it "suggest" Iroquois. The sides are straight and the shape may have been a cup (cross section 8).

A limestone-tempered sherd with a decidedly constricted orifice and incurving rim has a narrowed and rounded lip. Both surfaces have prominent narrow horizontal smoothing striations. Just below the lip on the exterior there is a deep circular impression 10 mm in diameter that forms a cameo on the interior (cross section 9). There are two "hole"-tempered sherds, formerly containing limestone, that have a surface finish caused by dragging a parallel grooved paddle over the surface. A small bowl or cup, with a rounded lip, medium texture, and clay temper has a roughly smoothed inner and outer surface (cross section 10).

CHECK OR GRID STAMP SHERDS

This group of sherds should be included in the grit or clay tempered group. The differentiating character setting them off as a subtype is the treatment that the outer surface received. When the vessels of this subtype had been shaped and the outer surface roughly smoothed a check-stamped paddle was applied. This impression covers the vessel from lip to base, as on plate 79, *a*, sherds 2, 3, 7, 8. Each individual check is square, rectangular, or, more rarely, a rhomboid. The stamp never appears on the lip or on the inner surface. The inner surface bears very narrow horizontal striations, and in most cases is roughly smoothed. The texture is predominantly medium or medium fine. Approximately 75 percent of the sherds can be scratched with the fingernail; the others are 2.5.

The stamp pattern at this site occurs only on vessels with a straight or very slightly flaring rim. None of them have an incurving rim. Six of the twenty-seven rim sherds have an added rim strip on the outer rim which varies in width from 2 cm to 3.4 cm. This strip does not add very much to the thickness of the wall (pl. 79, *b*, sherd 2, cross section 11). Six of the lips are narrowed and rounded, 17 are rounded, and 4 are flattened and rounded. Most of the lips showed that they had been shaped by smoothing the upper surface, and in a few cases it was difficult to decide whether the intention of the maker was to have a flattened or a rounded lip. The lip was slightly everted on nine of the sherds but did not occur on any of the rims with the added rim strip. An examination of the cross section shows that four of the rim pieces have lines of breakage, highly suggestive of the coil technique of manufacture. Quite a number of the body fragments also show similar breakage lines.

SHELL-TEMPERED POTTERY

There are a small number of sherds from this site in the Ceramic Repository that are shell tempered. A disproportionate number are shown in the photographs of the pottery from the site. The whole ceramic complex of the shell-tempered sherds is strikingly different from the grit and clay tempered sherds.

SALT PANS

There are nine salt-pan sherds, including two rim sections. Both of the rims have a smoothed area beneath the lip on the outer surface 2 to 3 cm in width. Both lips are flattened and rounded, and the one illustrated in the lower left-hand corner of plate 79, *a*, sherd 11, cross section 12, has a series of transverse, right to left slanting, wide, deep grooves on the lip. They are spaced 1 cm apart. The weave of the fabric impressed into the plastic surface of this sherd is not well-defined but is probably twilled twining. The weft strands are 1 cm apart, while there is very little space between the warp strands; there being five or six to 1 cm. Sherd 5 on plate 79, *a*, is an example of plain twining with the weft strands about 15 mm apart, and four to five warp strands every centimeter. Sherd 6, of the same figure, is an example of plain plaiting with warp strand of twined fibers. The warp strand is 3 mm wide and placed 5 mm apart. The weft strand passes over one and then under the warp strands. They are the same type of cord as the warp strands. The salt-pan sherd in the upper left-hand corner of plate 79, *a*, is well defined and is an interesting variant of the plain twining technique. The warp strands are 5 mm wide and are composed of three braided threads. The weft strands are 2.5 mm wide and 2.5 mm apart. One of the salt-pan body sherds has clear evidence of two separate fabrics having been impressed upon it. One of the weaves is practically identical with the one just described, while the second has the twisted thread warp which is the common type. The identification of two different fabrics on the body of a salt pan with a distinct line dividing them is not very good evidence for the theory that the fabric impressions are the remains of a cloth used to maintain the shape of the unfired vessel from the time of its removal from a hypothetical mold until it was fired.

BOWL AND POT SHAPES

The rim sherd with the small lip lug in the lower right corner of plate 79, *b*, sherd 13, is a dish fragment. The lip is considerably widened, flattened and horizontal, with its inner edge everted. The inner and outer surfaces are smoothed. Plate 79, *b*, sherd 12, cross section 13, is the semiflaring rim of a large pot. The lip is narrowed and rounded, and the rim lip is slightly elevated above the horizontal. The small loop handle in the same row is on a flaring, raised rim fragment of a medium sized pot (sherd 11, cross section 14). The large strap handle with converging sides is on a large pot with semiflaring rim and has a flattened and rounded lip (sherd 10, cross section 15). Sherd 1, cross section 16 of the same illustration is a fragment of a large pot with a straight rim that is joined onto the upper body at about an 80° angle. The handle is more nearly of the loop type and is joined to the rim below the lip. The two "ears" on the lip above the handle were added separately, and a small projection was placed on the handle halfway between its upper and lower ends. The sherd in the upper right-hand corner is a straight vertical rim with a rounded lip (sherd 4, cross section 17) The small rim-lip lug is practically horizontal and has a small node on its upper surface. This last trait is invisible in the photograph. Sherd 3 on plate 79, *b*, is a somewhat conventionalized horizontal zoomorphic lug. There are but two rim sherds with shell tempering that are not illustrated. Both are rather small pots. One has a semiflaring rim with a rounded lip (cross section 18), while the other has a very short, straight rim set at a 70° angle to the orifice. It has a narrowed and rounded lip. All of these sherds have smooth to smoothed inner and outer surfaces. The hardness is 2 to 2.5 and the texture is medium fine.

SITE Ma° 4

LIMESTONE-TEMPERED POTTERY

CHECK OR GRID STAMP SHERDS

This group was isolated primarily on the basis of the stamp impressions covering the entire outer surface (pl. 105, *b*, sherds 1, 2, 5, 6, 7, 11, 12, 14, and 15). On approximately 25 percent of the sherds there was a definite attempt to smooth over the paddle impressions and render them indistinct. The most common designs are the small squares and rectangles with a minority having a diamond-shape pattern. All of these sherds have crushed limestone as the tempering material. The matrix is composed of approximately one-third to one-half limestone fragments. Four out of the fifteen rim sherds have a hardness of 2–2.5 while the rest are 2.5. This group would correspond in hardness to the smoothed-surface, limestone-tempered group. The inner surfaces are smoothed and show the horizontal smoothing marks, or they may be smooth, the result of more careful work.

The rim shape is straight (cross section 1) in the majority of cases, with only one or two having a slightly flaring or flaring rim (cross section 2). The largest rim sherd has an approximate diameter of 18 to 20 inches at the lip. The other rim fragments indicate that they too belonged to good-sized vessels. Two of the lips are narrowed and rounded. The other lips are rounded, with most of them showing more or less flattening. Either due to the flattening or by design, five of the rounded lips are slightly everted and have a rolled or pushed-over appearance.

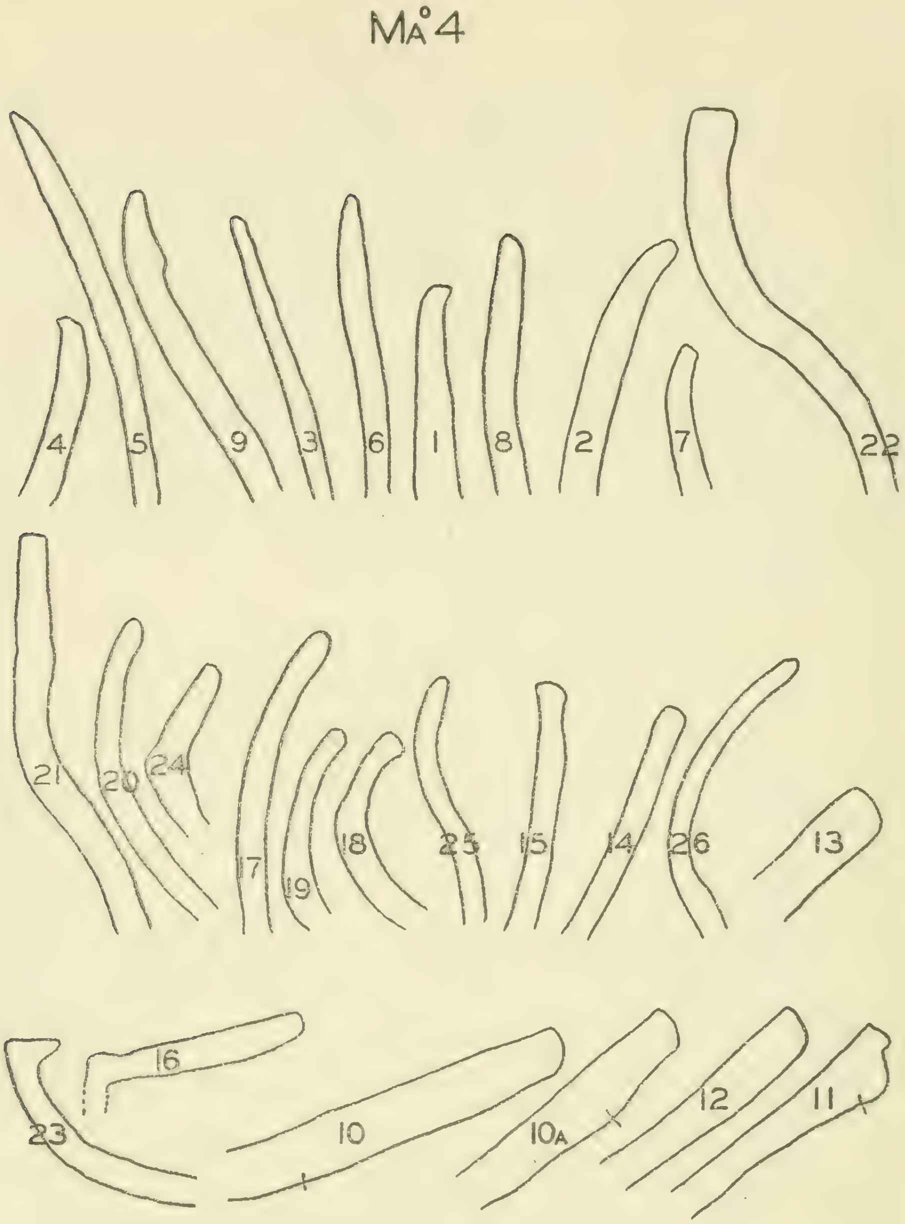

FIGURE 23.—Cross-section sherds.

One of the rim sherds and eight of the body sherds give evidence of having been constructed by the coil method. A number of the other sherds suggest the same method. Only one of the sherds of this group is "hole tempered."

Four limestone-tempered sherds have a surface finish that sets them off into a different subtype. They have impressions of what was perhaps a grooved paddle drawn back and forth across the surface. On one of the body sherds the grooves are parallel. Two of these sherds are rims and the lip in both cases is narrowed and rounded. The sherds are definitely not as thick as the two major limestone-tempered types. The rims are straight or slightly insloping. One sherd of this subtype has an impression of what seems to be a twilled weave made of flat pieces of cane (?) 3 mm wide. This may be the wrong interpretation of the impression, since the angle at which the elements meet is only about 20° (cross section 3).

SMOOTHED-SURFACE SHERDS

One of the types of the limestone-tempered group has as its distinguishing characteristic a smoothed surface on the exterior which in the majority of the cases still bears the marks of the smoothing operation, as on sherds 8, 12, and 13 of plate 105, *a*. These impressions are narrow, parallel, may be either horizontal or vertical, and are closely spaced. On body sherds 8 and 9 of plate 107, *b*, the surface striae are of the combed or brushed type. The inner surface sometimes gives evidence of this smoothing process but is usually not as well finished and the tempering particles have not been so thoroughly obliterated. The texture is predominantly medium, with a sizable minority being medium coarse. The sherds look as though they were quite hard, but examination discloses that 4 out of the 10 rim sherds can be scratched by the fingernail while the remainder have a hardness of 2.5. The body sherds have about the same hardness. The cross sections of the 81 body sherds show 6 that have good evidence of the coil method of construction, and about a dozen others are suggestive of that technique. Only one of the rim sherds presents tangible evidence of coiling. It is believed that vessels of this type were coiled.

Neither the shape of the vessel of this type nor even the shape of the rim is particularly clear. Three of the rims appear to be fragments of bowls (cross section 4) and another three belonged to open-mouthed jars with a relatively long and slightly insloping upper body and rim (cross section 5). Two of the rims are straight to slightly flaring and have an outward-sloping shoulder area (cross sections 6, 7, and 8). The lips of the bowls and the straight-sided rims are rounded to flattened and rounded, while the three with the gently insloping rims are narrowed and rounded. Whether this correlation would hold good if a larger series were at hand is, of course, a matter of conjecture.

One rim sherd (cross section 9) and eleven body sherds are "hole" tempered, caused by the leaching out of the limestone fragments, but in the other characteristics they can be classed with the limestone-tempered sherds. They are definitely softer than the larger group, as all of them can be scratched by the fingernail. Classifiable in the same general group are six sherds with "hole" temper and having a surface finish caused by the impression of a fabric with a wide warp and a close-plaited or twined weft. The association of this type of fabric impression with limestone temper is part of a definite ceramic complex in the area.

Shell-Tempered Pottery

SALT PANS

The salt pans can be divided into two major groups—those with fabric impressions and those with smoothed outer or lower surfaces. The fabric-impressed group can be divided into two different textile weaves, the plain plaiting and the plain twining. There are 12 rim sherds of the twined division. On four of them the fabric impression stops 2 to 3 cm below the lip (cross sections 10 and 10a), while on the rest of the sherds it continues to the lip. There are 29 body sherds with this type of weave. The weaves are characterized by a relative coarseness of the warp and weft strands; that is, the individual threads are rather large and are composed of two strands which are twisted together to form the threads. Then, too, the warp strands are not spaced closely together and the weft strands are also consistently about 1 cm apart. Only two of the body sherds and none of the rim sherds have the warp and weft placed closely together.

There are two rim sherds of the plain-plaited type and both of these have the hidden warp and closely woven weft. There are only two body sherds with this type of weave. Three body sherds have large warp and weft strands spaced 5 mm apart, which is also the width of each of the strands making up the weave. The strands are composed of three threads braided to form the strand. The weave is an open plain-plaited type.

Nine of the rim sherds in the salt-pan group have no fabric impression on the outer surface (cross section 12). This surface is smoothed and on a number of the sherds there is some evidence that this smoothing was done over a fabric impression. This may mean that the fabric impression is the result of a fundamental process in the construction of the vessel.

The tempering is shell in every case and the texture ranges from medium fine through medium to medium coarse, with the predominant type being medium. The hardness varies from 2 to 2.5 but by far the majority of the sherds are soft enough so that they can be scratched by the fingernail. The color variation is considerable, not only within the group but on many of the sherds. Creamy tan, reddish brown, and a brownish gray are the predominant colors.

The salt-pan shape at this site appears to be a shallow, circular plate with a gradually sloping rim. The thickness at the lip is usually greater than at the rim, but there is not the pronounced lip thickening that is characteristic of many other salt pans. The lip width varies from 7 mm to 2 cm, with the most common width being between 1 and 1.5 cm. The shape of the lip varies from narrowed and rounded (uncommon), rounded (most common), to flattened and rounded (fairly common).

An unusual fabric impression on sherds of the salt-pan type, or any sherd for that matter, is represented by three sherds in the Ceramic Repository and by sherd 2 in plate 103. This fabric was formed by the weaving of flat, thin elements called splints, both moderately rigid, after the method called by Miner twilled plaiting. Unfortunately the fragments in the study collection are neither large enough nor plain enough to see the exact mechanics of the weave. On one sherd one parallel set goes over two under two, and the elements at right angles are over three under three. Another fragment is probably over three under three.

BOWLS

There are 10 rim sherds that are fragments of bowls (cross section 14). Two of these have a small horizontal protuberance or knob 2.5 cm below the lip. One of them has a rounded lip and the other has a flattened lip. Five of the sherds have the usual smoothed body surface. Three of them have rounded lips and two are flattened and rounded. The remaining three bowl rims have a flattened, slightly everted lip. This everted outer edge has short, medium deep, vertical gashes, spaced 5 to 10 mm apart (cross section 15). Three of the sherds have fine texture while the remainder are medium fine. All of them have a hardness of 2–2.5. One bowl has a wedge-shaped flange on the outer rim, level with lip. The lip has a series of parallel incised lines that are at right angles to the lip edge. These incisions are medium wide and deep.

PLATES

There are four plate fragments in the collection available for study. They have a straight rim which slants outward from the basal portion at a 15° to 20° angle. One of them has a deeply notched inner rim-lip edge, while a second has a crenelated or pie-crust lip (cross section 16). A third rim has a raised lip area some 10 cm in total length and probably had another projection of the same type on the opposite side of the vessel. Two of the sherds are "hole" tempered. The texture is medium fine and the hardness is 2–2.5.

UNDECORATED POT RIMS

The most common rim at this site is one that belongs to an open-mouthed pot. There is considerable variability within the type, depending to some degree on the size of the vessel and the rim outline. A rough subdivision of the rims on the basis of shape results in the following grouping. Twelve of them are flaring or slightly flaring (cross sections 17–20), and of these, 7 have narrowed and rounded lips, while the other 5 are flattened and rounded. Thirty of the rims are vertical or have a very slight flare (cross sections 21 and 22). The lips of 5 sherds of this group are narrowed and rounded, 8 are rounded, and 17 are flattened and rounded. Only 7 of the 30 lips are everted. Two rim sherds are of a specialized type found in the Norris Basin and described as type A at Site 11. Another unusual rim shape for this site is represented by two sherds. The vessel has a considerably restricted orifice, with an insloping shoulder area and a short rim (cross section 23). The lip is flattened and extended exteriorly.

DECORATED SHERDS

As far as the writer can determine from the fragments, the principal vessel shape to bear decoration is one that has a short, straight rim which is either perpendicular or slants outward from the mouth at about a 60° angle (pl. 105, *a*, cross section 24, sherds 1 and 2). The decoration consists of incised lines which are located on the upper body or shoulder area, immediately below the rim. These lines form a design with groups of parallel rectilinear impressions slanting from left to right and the next group slanting from right to left. A curvilinear line may form a series of half circles with convex side upward, around the upper body. Above this line and following its curve is a series of short incised gashes which parallel each other and are at right angles to the curvilinear line (pl. 106, *a*, sherds 2, 4, and 6). There are nine rim sherds of this type. Seven of the lips are rounded, one is flattened and rounded, and one is narrowed and rounded. There are five body sherds with the rather narrow, medium deep, groups of parallel incised lines that belong to the rim sherds just described. Four body sherds have parallel incised lines enclosing a smooth area into which small punctate impressions have been made. On three of the sherds the impressions are small round holes, probably made by the same instrument that incised the lines. These lines are grouped in rows of two on two of the sherds while the third sherd, possessing a larger decorative area, has roughly parallel rows of variable length. One of this punctate group has between its parallel lines two rows of bisected cone impressions. Another rim sherd has the series of convex half circles on the shoulder area formed by a row of small punctate impressions 1 mm in diameter. The area beneath the base of the rim to the point where the ends of the half circles meet is filled with small punctations of the same type. The rim on this sherd is slightly flaring and the lip is narrowed and rounded (cross section 25). An unusual rim sherd at this site has a flattened and rounded lip, slanting slightly inward, and the rim just below the lip for a distance of 1 cm is slightly thickened. Just beneath this thickened area the outward sloping shoulder area begins. The decoration consists of a series of at least four closely spaced, narrow, medium deep, curvilinear lines which probably form a series of the familiar half circles.

An important secondary trait on this shell-tempered group is the handle complex. There are lug, loop, and strap handles present, with the latter type being the most common. Two of the three lugs are small semicircles, projecting horizontally from the rim at the lip level, as on sherds 5 and 8 of plate 106, *a*. The third lug is of the same type but is placed on the lower rim (sherd 9 of the same figure). The vessels are short, vertical-rim pots. There are four loop handles but only two of them have enough of the rim present to allow a statement as to its type. On one the rim is raised above the handle and the rim shape is flaring (cross section 26). On the second, probably a flaring rim, the handle is joined to the lip and there is a small pointed projection above the lip. This type is represented by sherd 1 of plate 106, *a*. Four portions of the lower rim show the point of attachment of loop handles.

Nine of the handles are strap handles and include a number of different types. Six of them are rather thick in proportion to their breadth. Seven are rather small. Of these seven, two are on short, straight-rimmed vessels, two have two small ears on the upper, outer portion of the handle (sherds 4, 10, and 11 of pl. 106, *a*), and two have a central depression running the length of the handle (sherds 1, 3, and 4 of pl. 106, *a*). The two larger handles of this group of nine have the same central depression. The vessels possessing this type of centrally depressed handle appear to have had a flaring to slightly flaring rim, which was raised at the handle area above the general rim level, and the rim appears to flow out into the handle. There are two rim fragments which show enough of the handle attachment to classify them as belonging to this type of vessel. One small raised-rim sherd with a small knob beneath it closely approaches a type common at Sites 11 and 9 in the Norris Basin.

SITE La° 13

Shell-Tempered Pottery

The sherds of this type from this site are conspicuous for their relatively large size. There are not many in the collection at hand and the number of distinct vessels is also quite small. Practically all of the sherds formerly having particles of shell for tempering are now "hole" tempered. The texture is predominantly medium fine to medium and most of the sherds can be scratched with gypsum. The exterior surface is smoothed to smooth but is considerably pockmarked, due to the erosion of the shell fragments. The interior surface of the bowls is as well finished as the exterior, while that is not the case with the large pots.

There are two large fragments of large bowls in the repository collection similar to sherd 4 in plate 64, *a*. They have straight to slightly outward slanting rims. The lip of both is flattened. One of them has a decidedly everted outer lip edge which has been vertically impressed about every 8 mm by a rounded implement (cross section 1), making an indentation of about the same size and giving the rim edge a pie-crust appearance. The other lip (cross section 2) has a medium wide, medium deep trailed line on the upper surface, close to and paralleling the outer lip edge. The outer lip edge has been built out by the addition of an added strip of clay which has then been vertically notched in a similar manner to the one just described. The impressions are a bit closer together but the general effect is very similar. The base is rounded.

One small bowl has a smoothed surface and a flattened base. The clay is very soft and does not appear to have been fired to as high a temperature as the majority of the vessels.

Two small pots that are two-thirds restored have a smoothed outer surface and a rather short semiflaring rim. The lip of one vessel is narrowed and rounded (cross section 3). The second small pot has a punctate decoration around the upper body. The design consists of a single row of small, closely spaced, round, punctate marks arranged in a series of three connected U's with mouth upward. There were probably four such U-shaped groups around the circumference of the vessel. Each group of U's is set apart by a horizontal line of dots connecting the upper, outer point of two contiguous groups.

The remaining shell-tempered sherds belong to rather large straight-rim pots (cross sections 4 and 5). Only one handle is present and that is of the strap variety (cross section 6). It is 4.6 cm wide, 65 mm thick, 5.4 cm high, and projects but 1.8 cm from the outer surface. It is attached to the lip and to the almost vertical shoulder by molding. The lip is rounded. Other strap-handle sherds are shown in the illustrations of pottery from this site.

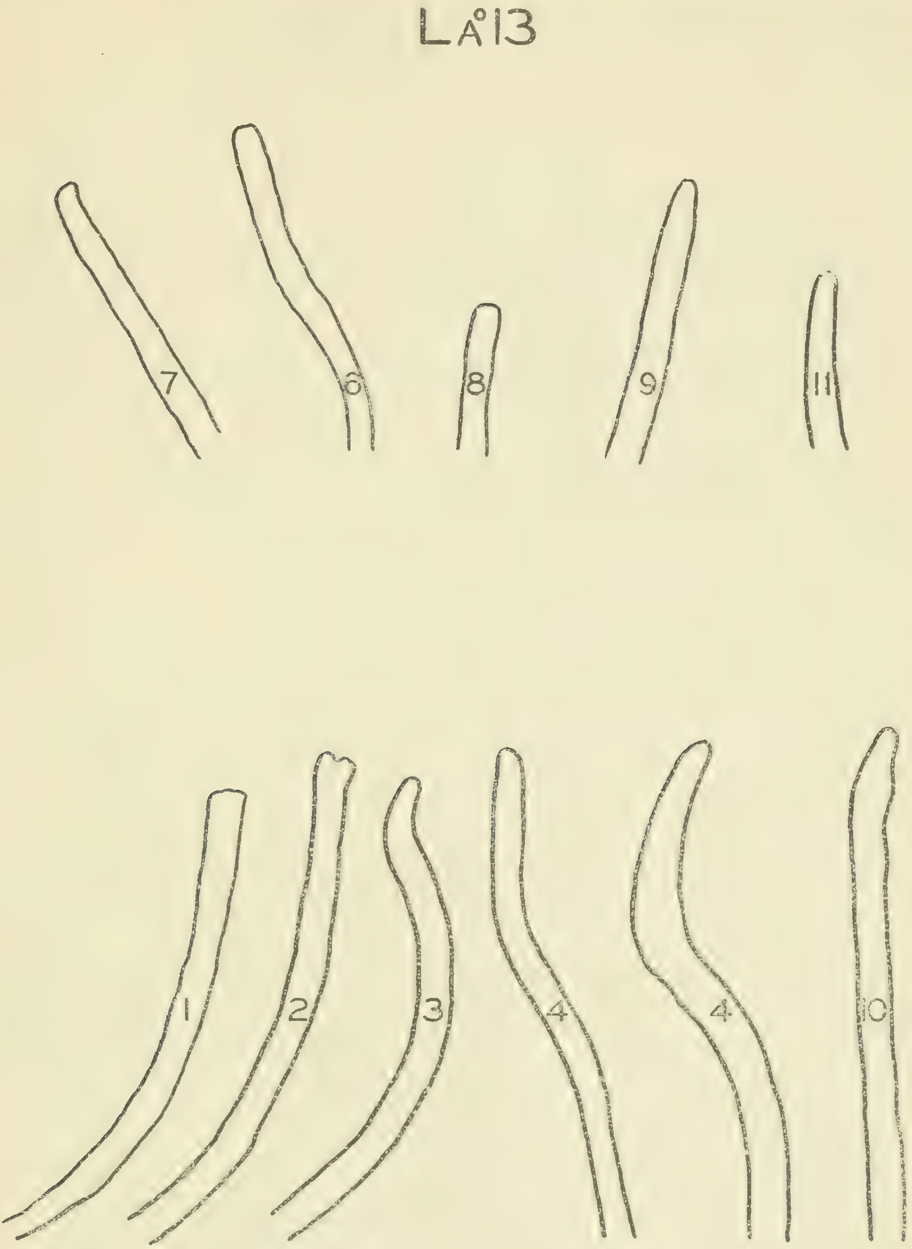

FIGURE 24.—Cross-section sherds.

LIMESTONE-TEMPERED POTTERY

Thirteen sherds are "hole" tempered and have smoothed exterior surfaces. The interior surface is also smoothed. One of the sherds seems to have a straight rim and a narrowed and rounded lip. There is a smaller percentage of tempering of this type at this site than at most of the others discussed in this section of the Wheeler Basin report. The varieties of surface finish or decoration often associated with limestone tempering at other sites appears to some degree on grit and clay tempered vessels at La° 13.

Clay or Grit Tempered Pottery

CHECK-STAMP SHERDS

Twenty-one sherds have a check-stamp impression on their outer surface. Most of these stamp impressions are somewhat obliterated by subsequent smoothing. Sherd 9 on plate 64, *a*, shows the impression quite clearly. Most of the impressions are of the small square to rectangular type running 2 to 4 mm in size. One sherd has a diamond stamp design. Some of the sherds are grit tempered, with crushed rock being used, and some are clay tempered. A rim sherd with the lip missing has a diamond stamp, medium fine limestone temper, and a narrow added rim strip on the upper, outer rim. There is a slight suggestion along some of the breakage lines that the vessels were constructed by coiling.

SMOOTHED-SURFACE SHERDS

The dominant characteristic that caused the grouping of these sherds together is the smoothed exterior surface. On some of the sherds the smoothing striations are still visible on the exterior and usually run in a vertical direction, particularly on the upper portion of the vessel. There are 151 sherds with this surface finish and the tempering material is either crushed rock or burned clay particles. The only noticeable difference between the two types of tempering is that vessels with the crushed rock appear to have a slightly smoother outer surface. The texture of the grit-tempered sherds is medium fine to medium, while that of the clay is almost entirely medium fine. There appears to be no significant difference in hardness, as all of the sherds can be scratched with the fingernail.

The shape of the rim varies considerably, but over half of the rims are straight and the majority of the others slant inward, indicating that the mouth of this latter shape was somewhat contracted (cross sections 7, 8, and 9). The lips are either rounded or narrowed and rounded. Some of the outer lip edges are slightly everted.

CORD-WRAPPED PADDLE EXTERIOR

There are 61 body sherds and six rim sherds that have cord-wrapped paddle impressions on the outer surface. These impressions vary from such clear impressions as those on sherd 1 on plate 64, *a*, to the partially obliterated ones as shown on the next sherd of the same plate. The cord marks cover the entire outer surface up to the lip. The tempering material is either crushed rock, represented by rather large fragments, or clay tempered. The tempering material does not represent more than a third of the combined clay and temper. The sherds can all be scratched with the fingernail. The texture is medium fine and medium. The interior surface is smoothed and on some of the sherds horizontal smoothing marks still can be seen. One of the characteristic features is an additional strip of clay which was added to the upper rim after the cord-wrapped paddle had been applied to the surface of the vessel (sherd 3, pl. 64, *a*). This thin strip extended 15 to 25 mm below the lip (cross section 10). The lip is usually rounded or narrowed and rounded and is sometimes everted slightly, probably due to the shaping of the lip. The rim is straight (cross section 11).

Pottery chart showing distribution of ceramic types

	Mg^{v} 2		Lu^{o} 86		Ct^{v} 17		Li^{v} 36		Ma^{o} 4		La^{o} 13	
Sand tempered	14	9.5	216	12.2	145	27.1	----	----	----	----	----	----
Parallel incised lines	4	28.6	31	13.9	----	----	----	----	----	----	----	----
Geometric designs	4	28.6	14	6.5	49	33.5	----	----	----	----	----	----
Incised plus stamped or roulette	----	----	8	3.7	1	.7	----	----	----	----	----	----
Fingernail or fingertip	2	14.2	44	20.4	57	39.1	----	----	----	----	----	----
Smoothed	4	28.2	116	53.7	32	22.5	----	----	----	----	----	----
Cord impressed	----	----	----	----	2	1.7	----	----	----	----	----	----
Feet	2	----	4	1.8	4	2.5	----	----	----	----	----	----
		100.0		100.0		100.0						
Fiber tempered	3	2.0	51	2.8	60	12.1						
Stamp	2	66.7	8	15.7	15	25.0	----	----	----	----	----	----
Punctate or "pseudo" stamp	1	33.3	24	47.1	10	16.7	----	----	----	----	----	----
Parallel incised lines	----	----	4	7.9	2	3.3	----	----	----	----	----	----
Smoothed	----	----	15	29.3	33	55.0	----	----	----	----	----	----
		100.0		100.0		100.0						
Limestone tempered	91	62.0	323	18.2	161	32.3	4	0.5	13	4.2	243	60.4
Smoothed	51	56.0	174	54.0	----	----	2	50.0	13	100.0	111	46.2
Check stamp	3	3.3	39	12.0	9	5.6	----	----	----	----	119	49.0
Grooved paddle	3	3.3	----	----	----	----	2	50.0	----	----	4	1.6
Brushed or combed	2	2.2	----	----	1	.6	----	----	----	----	----	----
Cord-wrapped paddle	30	33.0	----	----	----	----	----	----	----	----	2	.8
Fabric—plain plaited	----	----	109	34.0	151	93.8	----	----	----	----	6	2.4
Conoidal base	2	2.2	----	----	----	----	----	----	----	----	1	----
Feet	----	----	1	----	----	----	----	----	----	----	----	----
		100.0		100.0		100.0		100.0		100.0		100.0
Clay tempered	39	26.5	1,115	63.2	113	22.9	598	94.8	239	78.4	----	----
Smoothed	26	66.7	[1] 6	----	69	60.0	[1] 49	----	151	63.2	----	----
Cord-wrapped paddle	13	33.3	[1] 46	----	8	7.8	[1] 46	----	67	28.0	----	----
Check stamp	----	----	----	----	32	28.3	128	21.0	21	8.8	----	----
Netted fabric	----	----	----	----	2	3.9	----	----	----	----	----	----
Flattened base	1	----	----	----	2	----	----	----	----	----	----	----
		100.0		----		100.0		----		100.0		----
Shell tempered	----	----	62	3.5	27	5.5	30	.5	53	17.4	159	39.6
Smoothed	----	----	62	100.0	26	96.5	21	70.0	53	100.0	85	53.5
Cord-wrapped paddle	----	----	----	----	1	3.5	----	----	----	----	----	----
Salt pans	----	----	----	----	----	----	9	30.0	----	----	60	37.8
Bowls	----	----	----	----	----	----	----	----	----	----	10	6.3
Plates	----	----	----	----	----	----	----	----	----	----	4	2.4
		----		100.0		100.0		100.0		100.0		100.0
Total	147	100.0	1,767	100.0	496	100.0	632	100.0	305	100.0	402	100.0

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[1] Rims.

COMPARATIVE STATEMENT

It is hoped that a reading of the main body of the report will show that different ceramic types existed in the Wheeler Basin, and furthermore that the types recurred in essentially the same form. To facilitate a comparison of the occurrence of these wares, a chart (p. 157) was made to show the total number of sherds of each ware at each site, and the percentage of each ware at each site. On the same chart a number of subdivisions have been made to bring out certain significant features of the different wares and, where possible, the number and percentage of each subtype is given. In examining the chart the reader must keep in mind that the Ceramic Repository did not receive all of the sherds from the sites and that this chart is merely an attempt to present briefly and numerically some of the outstanding characteristics of the Wheeler Basin pottery.

One method by which the ceramic connections of this area can be understood is by an understanding of the geographical spread of the pottery types. In pointing out this distribution the findings are limited to the pottery. It must be understood that no attempt is made to describe archaeological cultures. The first ware to be subjected to this geographical analysis is the fiber-tempered ware which occurred in some numbers at Lu^{o} 86 and at Ct^{v} 17. Three sherds were present at Mg^{v} 2. The presence of vegetal fiber as tempering material in pottery is of infrequent occurrence in the eastern part of the United States and seems to be limited to the southeastern portion of that area. The Stallings Island culture[15] sherds are vegetal tempered, if the sherds from that site in the Ceramic Repository are representative. It is significant that this complex at Stallings Island represented the oldest culture found at the site, and that the top layer contained sherds belonging to the Woodland and Mississippi Patterns.[16] The top level also contained sherds with a complicated stamp design which Holmes classified in his South Appalachian Province.[17] This latter ware has not been placed accurately in the McKern classification, as far as the writer knows.

In 1933 Dr. W. K. Moorehead sent the Ceramic Repository a collection of sherds from two sites near Beaufort, S. C. The two sites are ceramically homogeneous and have three main pottery types. One of them is fiber tempered and is quite similar to the sherds of the Stallings Island culture. A second is clay tempered and has cord-wrapped paddle markings on the exterior surface up to the lip. On some of the vessels there is a thin added outer rim strip. Some of the cord-marked sherds show that the coil method was used in their construction. This method was also employed in manufacturing the clay, limestone, or grit tempered sherds on which the check stamp appears. Last spring (1936), during a visit to Dr. A. R. Kelly at Macon, this fiber-tempered ware was observed there. It occurs on a number of the sites in that area.

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[15] Claflin, W. H., Jr. The Stallings Island Mound, Columbia County, Ga. Papers of the Peabody Museum, vol. XIV, No. 1.

[16] Claflin, W. H., Jr. Op. cit., pl. 29; pl. 30, sherds 1 and 2; pl. 31.

[17] Holmes, W. H. Aboriginal Pottery of the Eastern United States. Twentieth Ann. Rept. Bur. Amer. Ethn., Washington, 1903.

The earliest, and still the best, description of this type was made by Holmes in his description of the pottery found by C. B. Moore at Tick Island, Volusia County.[18]

> The shell deposits of the St. John's furnish varieties of ware said to be confined almost exclusively to these deposits, and supposed to especially characterize the middle period of their accumulation, the earlier period being without pottery and the later having many varieties such as appear on the surface in great plenty. This pottery has been recovered only in the shape of sherds and cannot be studied to the best advantage. Among the fragments I find evidence of considerable variation in texture, treatment, and ornamentation. One variety is characterized by a rather fine-grained paste preserving the warm grey colors of the baked clay. The surfaces are finished with the rubbing tool and are plain or have been rather carelessly embellished with patterns of incised straight and curved lines. Another, and the most notable variety, is characterized by the unusual appearance of the paste which has been tempered with a large percentage of fibrous matter, probably cut and finely broken palmetto fiber. This tempering substance has been destroyed by fire or decay, leaving the paste highly vesicular and porous and of low specific gravity. Generally these sherds show the decided effects of use over fire. The walls are thick and uneven and the surfaces rudely rubbed down. The forms appear to have consisted mainly of bowls with variously recurved, incurved, and otherwise modified rims, and rounded or flattish bases. The diameter varies from a few inches to a foot or more * * *. This fiber tempered pottery was found by Wyman at Old Town, Old Enterprise, Watson's Landing, Silver Spring, and Platka, but no details of occurrence are given. Mr. Moore obtained specimens from Tick Island, Orange Mound, Huntington's, Mulberry Mound, and many other localities, all the phenomena being observed with the most careful scrutiny.

Holmes later repeated this description in his monograph on the "Aboriginal Pottery of the Eastern United States."

M. W. Stirling [19] reports fiber-tempered pottery from the Florida central west coast in an historic mound, but the decoration is not of the same type as those that have been previously mentioned. Stirling also calls similar pottery from the same site "untempered muck ware", so it is possible that he is discussing an entirely different ware. This "muck" ware was also found at the Englewood Mound, Sarasota County, Fla., and the Ormond Mound, Volusia County. A nonprofessional working in Walker County, Ala., found pottery that can be tentatively identified as fiber tempered.[20] He also found sherds that are of the sand-tempered type.

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[18] Holmes, W. H. Earthenware of Florida. Journal Academy of Natural Sciences of Philadelphia, vol. 10, 2d series, pp. 113–114, Philadelphia, 1894–96.

[19] Stirling, M. W. Smithsonian Archaeological Projects Conducted Under the Federal Emergency Relief Administration. 1933–34. Smithsonian Report for 1934, p. 380, Washington, 1935.

While excavating the Alexander Mound, in Lawrence County, Ala., Gerard Fowke came across fiber-tempered sherds that are almost identical to those described for the Wheeler Basin.[21] The other sherds found by Fowke at this mound will be mentioned later.

While it is recognized that it is a bit premature at this time to attach too much cultural significance to the distribution of this fiber-tempered pottery, it is believed that this method of tempering pottery has cultural importance. The Wheeler and Pickwick Basins, where these sherds have recently been found, represent the northwestern limit of their range. The ware does not seem to occur west into Mississippi, north into Tennessee, or northeast into North Carolina. The ware is much more ornate and varied in its decoration in Georgia, South Carolina, and Florida. The writer feels that its presence in the Wheeler Basin can be attributed to influences from the south Atlantic and the Florida Gulf coast.

The ware which has been called sand tempered has an even more restricted distribution than the one just described. It occurs at the three sites possessing the fiber-tempered pottery and does not occur at any of the others. Like the fiber-tempered group, it was of infrequent occurrence at Mg^v 2. The same member of the Alabama Anthropological Society who found the fiber-tempered pottery in Walker County also found the sand-tempered type at the same site. The only other definite occurrence known was at the aforementioned Alexander Mound, where sherds identical to those from the Wheeler Basin were found. This type of ware is also found in the Pickwick Basin in sites now being excavated by the Tennessee Valley Authority. It is quite difficult to place this ware in a more general grouping. It possesses some decorative techniques also found in the more ornate Hopewell pottery and also in Coles Creek. It is perhaps unwise at this time to make too much of this analogy. It is believed that this ware has some connection with the northwest Florida and Gulf coast, although the evidence at hand is not very conclusive. The closest ceramic relationships of this type, it is believed, lie to the south and to the southeast.

The pottery sherds having limestone as the tempering material form one of the dominant types at the Wheeler Basin sites. It occurred rarely at sites Li^v 36 and Ma^o 4. The most common varieties of surface treatment are smoothed, cord-wrapped paddle and fabric impressed. Less frequent are the check stamp, the grooved-paddle impressions, and a brushed surface finish. This type is a local variety of the widespread Woodland ware and many of its characteristics are identical with the clay- and grit-tempered pottery which I regard also as Woodland. Woodland pottery does not stop at the Mason and Dixon line. Except at Ct^{v} 17, where the two types of Woodland ware are approximately equal, the two types counterbalance each other. They appear to be culturally connected.

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[20] Brannon, P. A., *Ed.* Arrow Points, vol. 9, No. 6, p. 81. Montgomery, 1924.

[21] Fowke, Gerard. Archeological Investigations—II. Forty-fourth Ann. Rept. Bur. Amer. Ethn., pl. 84, Washington, 1928.

The most common type of tempering on the Woodland sherds found in the caves and rock shelters of Kentucky and Tennessee is limestone, and the same features are found on those sherds as are found in the Wheeler Basin.[22] The fabric impression on these sherds is of the plain plaited type and is identical in concept to that found by Harrington in the Round Grave culture.[23] It was also recovered from the Alexander Mound. This weave is very rarely found on salt pans and the weaves found on the salt pans are never found on vessel shapes associated with the plain plaiting. In the writer's Norris Basin report the distribution of this type of fabric was pointed out. Whenever it occurs, it seems to be associated with Woodland material and can be described as a subtype of Woodland pottery. The check stamp, on the other hand, has a different distribution and is associated with many archaeological cultures. In the north it is rarely found, but is then usually associated with Woodland and Iroquois[23a] material. In the middle south and in the extreme southeast, it is one of the most common types and has been found in hundreds of mounds and village sites. Speaking of one of his first trips to the northwest Florida coast, Moore says, "The small check stamp found everywhere else by us is also abundantly present in the district we have lately explored."[24] In a later report Moore wrote, "Stamped decoration was absent. Not only was the complicated stamp of the south Appalachian region, which extends across to southern Alabama, not met with in a single instance, but our old, intimate, and hitherto ever-present friend, the small check stamp, was absent also."[25] Throughout its range of occurrence the check stamp is rarely found on shell-tempered vessels. It is often associated with the complicated stamp, although it does appear in sites in which that form of paddle decoration does not appear. This is the case in the Wheeler Basin. In Clarke County, Ala., Moore found some check stamp vessels that appear very similar to those in northern Alabama. According to Moore, "Shell-tempered ware was not present in the mound."[26] This, however, is not the place to write an extensive dissertation on the distribution and cultural significance of the small check stamp.

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[22] Griffin, J. B. The Ceramic Remains from the Norris Basin. *In* Bull. 118, Bur. Amer. Ethn., An Archaeological Survey of the Norris Basin, by W. S. Webb.

[23] Harrington, M. R. Cherokee and Earlier Remains on Upper Tennessee River. Indian Notes and Monographs, No. 24. New York, 1922.

[23a] Wintemberg, W. J. The Roebuck Prehistoric Village Site, Grenville County, Ontario. National Museum of Canada. Bulletin 83. Ottawa, 1936.

[24] Moore, C. B. Certain Aboriginal Remains of the Northwest Florida Coast. Pt. I, Journ. Acad. of Nat. Sci. of Philadelphia, vol. xi, pt. 496. Philadelphia, 1902.

[25] Moore, C. B. Certain Aboriginal Remains, Black Warrior River, Ala. Journ. Acad. Nat. Sci. Philadelphia, vol. 13, pt. 2, p. 141. Philadelphia, 1905.

The presence of the cord-wrapped paddle impressions on the limestone-, clay-, and grit-tempered sherds offers a further excuse to point out the presence over a large part of the Southeast of the Woodland type of pottery. H. B. Collins, Jr., has published on his excavations at Deasonville.[27] The plain or smoothed-surface and cord-wrapped paddle pottery, tempered with "potsherds," is closely related, it is believed, to the similar types described in the body of this report. The painted ware with shell temper does not appear in the Wheeler Basin. The group of sherds illustrated by Collins in plates 6 and 7 belongs in the Mississippi pattern and I believe is closely connected to the middle Mississippi pottery found in southeastern Missouri and northeastern Arkansas along the St. Francis River Valley. If, as Collins says, the pottery possessing parallel horizontal lines on the outer rim is identical in composition to the cord-wrapped paddle and smoothed ware, Deasonville possesses a decorative complex associated with Woodland sherds that is not found in the Wheeler Basin or farther north. These incised sherds are perhaps more closely related to the Coles Creek complex. There are, then, at least two and perhaps three distinct ceramic complexes at the Deasonville site. Ford[28] has defined the Deasonville types found near Sicily Island, La., and there is little difficulty in recognizing them as being basically Woodland.

Mr. Moreau B. Chambers in 1933 sent the Ceramic Repository a series of sherds from a site in Noxubee County, Miss. These sherds are clay and grit tempered and of medium fine to medium texture. There are two main types of surface finish—roughly smoothed and cord-wrapped paddle which is sometimes evenly applied and at other times is crisscrossed. Less common is the plain plaited fabric, the brushed surface, and ridges made by a grooved paddle. There are only a few rims present but these appear to be either straight or insloping. Two of them have slightly everted lips. A few sherds show evidence of coiling. This last trait is important and significant, and checks with the Woodland pottery found in the Wheeler Basin area, and seems to be characteristic of Woodland pottery.

At the two sites near Beaufort, S. C., mentioned in the first part of this comparative statement, the check stamp and the complicated stamp were placed on sand- or grit-tempered sherds. The check stamp was the most common. The cord-wrapped paddle occurred on sherds having a straight rim and clay tempering. Both of these types were made by coiling. At Macon, Kelly has found pottery with the cord-wrapped paddle impressions which, if found in the North, would without hesitation be classified as Woodland.

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[26] Moore, C. B. Certain Aboriginal Remains of the Lower Tombigbee River. Op. cit., vol. 13, pt. 2, art. 2, pp. 260–262. Philadelphia, 1905.

[27] Collins, H. B., Jr. Excavations at a Prehistoric Indian Village Site in Mississippi. Proc. U. S. Nat. Mus., vol. 79, art. 32. Washington, 1932.

[28] Ford, J. A. Ceramic Decoration Sequence at an Old Indian Village Site Near Sicily Island, La. Anthrop. Study No. 1, Dept. of Conservation, Louisiana Geol. Survey, New Orleans, 1935.

This does not imply that all cord-wrapped paddle vessels in the eastern United States are to be classified as Woodland, as this type of surface finish occurs in a number of Mississippi aspects, and in aspects as yet unnamed. The attempt is here made to point out that cord-wrapped paddling is found over practically the whole area of pottery distribution east of the Rockies and north of the Gulf of Mexico.

The shell-tempered pottery did not occur at Mg^v 2. It was most abundant at Sites Ma^o 4 and La^o 13. The relationships of this definite and clear-cut ceramic complex are with the Mississippi pattern and the sites in the Wheeler Basin can be placed in a focus of the middle Mississippi phase. The most closely related sites are those excavated by Moore in the same area.[29] A slightly more distant connection is seen with the Tennessee-Cumberland pottery, and a bit farther removed are those sites excavated by Webb and Funkhouser in western Kentucky which are also middle Mississippi. The pottery from eastern Tennessee attributed to the Cherokee by Harrington is also related to the shell-tempered complex in the Wheeler Basin.

There is only a limited amount of pottery in the Ceramic Repository from Moundville, and it is rather presumptuous for the writer to attempt any sort of a characterization of Moundville culturally, or to make statements as to its affiliation with Wheeler Basin material. However, it is at once obvious that there is considerable variety in the Moundville pottery, and that the combination of pottery traits represents a diverse cultural background. The ceramic complex is certainly Mississippi and definite relationships to middle Mississippi are apparent. Unfortunately the identification of the various middle Mississippi foci or aspects has not been made and the whole problem of the lower Mississippi is even more vague. The Moundville "cooking-pot" vessels appear to be related to the Tennessee-Cumberland and northeast Arkansas-southeast Missouri area. The fine black ware at Moundville with engraved designs is represented at Ma^o 4 by a few specimens (pl. 106, *b*, *7*). This would seem to indicate trade relations and suggests chronological contemporaneity. It is in the strap-handle cooking pots with lobed shoulders and incised half circles with perpendicular gashes that the closest Wheeler-Moundville connection appears.

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[29] Moore, C. B. Aboriginal Sites on Tennessee River. Journ. Acad. Nat. Sci. Phila., vol. XVI, pt. 2, art. 2. Philadelphia, 1915.

Another method by which the pottery complex in the Wheeler Basin can be more clearly understood is by the chronological appearance of the different types in the area. It is becoming increasingly clearer that throughout the eastern United States there existed a number of prepottery cultures. These groups will be found to be more alike on the basis of their negative traits than on their positive ones. One of these groups as shown by Major Webb was located in the Wheeler area. It is believed that the sand-, fiber-, limestone-, clay- and grit-tempered pottery appeared in the Wheeler Basin before the shell-tempered ware appeared. It is more difficult to assign temporal positions to the members of the first group. The fiber-tempered pottery was placed by Moore and Holmes in the first level possessing ceramics in eastern Florida, and was the earliest type at Stallings Island. Too little is known about the sand-tempered ware to make any statements regarding its age, save that it is older than the Mississippi pottery in this area.

In 1918, N. C. Nelson published some suggestions as to ceramic succession in the Southeast.

> In other words, according to the evidence now available, it seems that of the various decorated types of pottery found in the southeastern United States, such as simple checker-stamped, complex or curvilinear stamped, cord-marked, pinched, punched, stippled, incised, engraved, modeled, and painted, the first mentioned has possibly the widest geographical distribution. Moreover, its center or origin would seem to be located in east-central Florida because here it occurs in isolation; while, as we move out from this center to the west and the northwest we find it to be slowly thinning out quantitatively, being gradually replaced in different localities by one or more of the great variety of decorative types above mentioned. The remarkable exception to this rule is a small area in North Carolina where a few surviving Cherokee still practice—or did until recently—this same simple type of pottery decoration * * *. For one thing, as already stated, the checker-stamped pottery has extremely wide distribution, which of itself argues for its relatively great antiquity. Again, while it is conceivable that the great variety of decorative ideas mentioned above may have originated in as many different places in the West and Northwest, it is difficult to believe that in an area no larger than Florida the contemporary ceramic products should not be associated throughout. In other words, the presumption is that since no painted or incised or curvilinearly stamped ceramics are found mixed with the checker-stamped ware of the Indian River country, they were not in existence.[30]

The plain plaited fabric pottery as shown by Harrington's excavations is older than the two shell-tempered complexes he described. Evidence is now coming in from recent excavations along the upper Tennessee River Valley that supports Harrington's conclusions regarding the cultural succession in that area. Very similar sherds are stratigraphically older than the Mississippi site now being excavated by the University of Chicago near Brookport, Ill. Sherds bearing this type of fabric were carried into New York by the earliest pottery makers to occupy that area.

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[30] Nelson, N. C. Chronology in Florida. Anthrop. Papers Amer. Mus. Nat. Hist., vol. xxii, pt. ii, pp. 98–99. New York, 1918.

At Li^v 36 the field foreman noted that there was a definite "increase of shell tempering at the upper levels. In this connection we may note that all the mortuary vessels found with burials are shell tempered and represent the later inhabitants." At two sites in Marshall County, Ala., Moore found the shell-tempered complex in direct association with historic material. In eastern Tennessee, likewise, the type of material called Cherokee has been found time and again in association with European trade material.

SUMMARY

This study of the ceramic remains from the Wheeler Basin has brought out the presence of at least four separate wares, namely: (1) the shell tempered, (2) fiber tempered, (3) sand tempered, and (4) the grit, limestone, and clay tempered. These four wares are distinct and do not show cultural intermixture. Their distribution, cultural associations, and chronological positions are not the same. Except for the recent arrival of the shell-tempered Mississippi ware from the West, the exact chronological relationship of the first three wares is uncertain. It is believed that the pottery called herein Woodland remained longer in the Wheeler area than did the fiber- and sand-tempered wares, although one must admit proof for this statement is lacking.[31]

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[31] While the majority of the papers dealing with southeastern archaeology were examined in preparing this paper, only those articles to which direct reference was made are listed in the bibliography. For example, I found over 90 sites in the Southeast that Moore listed in his various publications as having been occupied by users of the check stamp.

[End of article by Dr. James B. Griffin.]

EARLY INDIAN HISTORY OF THE CENTRAL TENNESSEE RIVER BASIN

Wheeler Basin extends over a large portion of the southern section of the Tennessee River and lies within six counties of northern Alabama. This portion of the Tennessee River Valley, when first visited by white men, was reported as uninhabited, but it was known to present abundant evidence of prehistoric occupancy.

This fact is expressed by Street [32] as follows:

> When that portion of Tennessee Valley lying west of Cumberland Mountains first became known to the white man, the entire region stretching to the Mississippi and from the southern watershed of the Tennessee to the northern tributaries of the Ohio was without permanent inhabitants, and was used only as a hunting ground by the surrounding Indian tribes. It is one of the most mysterious facts connected with the Indian race that this beautiful country with its broad prairies, its splendid rivers, and magnificent forests should be left thus unoccupied for ages, as it evidently had been. It is easy, however, to believe that with such warlike tribes on the north as the Algonquins and the Iroquois, and on the south as the Creeks, Cherokees, and Chickasaws, none found it safe to set up an exclusive claim to so charming a region and to attempt to people it. By a curious paradox the very attractiveness of the country rendered it uninhabitable.
>
> There were, however, to be seen on every hand evidences of a prehistoric occupancy centuries before, consisting of mounds, shell heaps, stone implements, pottery, old fields, burial caves, and ancient cemeteries.

Street cites both Powell [33] and Thomas [34] as authority for the fact that the Tennessee River Valley was found unoccupied in the early historic period.

It appears that not until about 1660 is there any historic record of occupancy by any Indian tribe in this general region of the Tennessee River. About this time the Shawnee are assumed to have come upon the Cumberland River in central Tennessee in the vicinity of Nashville and to have settled there in considerable numbers. Of this occupancy by the Shawnee and their relation to their neighbors, the Cherokee on the east and the Chickasaw on the west, Street [35] has this to say:

> The presence of the Shawnees in the Cumberland and Tennessee Valleys is the first we know of them in actual history. Thenceforward till after the Revo-

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[32] Street, Oliver Day. The Indians of Marshall County, Ala. Publications of the Alabama Historical Society, vol. IV, Montgomery, Ala., 1904, pp. 193, 194.

[33] Powell, J. W. Indian Linguistic Families of America North of Mexico. Seventh Ann. Rept. Bur. Ethn., Washington, D. C., 1891, p. 78.

[34] Thomas, Cyrus. Burial Mounds of the Northern Section of the United States. Fifth Ann. Rept. Bur. Ethn., Washington, D. C., 1887, p. 59.

[35] Street, Oliver Day. Indians in Marshall County, Ala. Publications of the Alabama Historical Society, vol. IV. Transactions. 1903. Pp. 201–203.

> lutionary War, they are the Ishmaelites of the Indian race; they seem to have roved in scattered bands all over the eastern part of the Mississippi Valley, their hands against everybody and everybody's hands against them. The origin and history of this tribe is the greatest puzzle.
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> * * * * * * *
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> Contemporary notices often place them at the same time in two or more different localities hundreds of miles apart. This condition can be explained in only one way, and this is, that for some reason they had at an early date been split up into a number of distinct and widely scattered bands. But there is a general consensus of opinion that the principal band occupied the region of the lower Tennessee and Cumberland Rivers from about 1660 to 1721. The old maps of this period locate the Cherokees on the headwaters of the Tennessee, and the Shawnees below them west of Cumberland range down to and including the great bend of the Tennessee. Below the Shawnees, the Chickasaws were put down, but it is extremely doubtful that at this period (1660–1721) they had any permanent settlements on this stream. Their villages were on the headwaters of the Tombigbee in the present State of Mississippi, though their hunting grounds extended to the mouth of the Ohio and for some distance into the present State of Tennessee.
>
> * * * * * * *
>
> Several theories have been advanced as to whence the Shawnees came when they arrived in this region, but none can be said to have received general acceptance. That they settled here about 1660, either by permission of the Cherokees, as suggested by Haywood, or in defiance of their rights, as claimed by others, is a well-established historical fact. They were soon at war with both the Cherokees and Chickasaws, and by 1690 it had become an annual custom for the Cherokees to send an expedition against them in the months of January and February. They were also subject to frequent attacks by the Iroquois, and were beginning to learn something of the causes that had kept this country, the most beautiful on earth, so long unoccupied. This war with the Cherokees continued for 40 years or more.

As is well known, the Shawnee were related linguistically to the Sauk and Fox, and partly because of this relationship it is believed the early home of the Shawnee was north of the Ohio River. Bushnell[36] suggests that before their removal southward they may have at one time lived near the mouth of the Wabash. It is to be noted that he apparently considers the stone grave as evidence of Shawnee occupancy. Of this migration he says:

> When first known to the French, the Fox were evidently living on the Lower Michigan Peninsula, east of Lake Michigan. The majority of the Shawnee were then south of the Ohio, their principal settlement being in the vicinity of the present city of Nashville, Tenn. The time or cause of their removal southward cannot be determined, * * *
>
> From their new home in the valley of the Cumberland one or more bands of the Shawnee appear to have moved eastward, probably passing south of the Cherokee, and thus reaching the valley of the Savannah, where they established themselves in several small villages. But within a generation some had again turned westward and settled for a few years on the Chattahoochee,

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[36] Bushnell, David I., Jr. Native Villages and Village Sites East of the Mississippi. Bull. 69, Bur. Amer. Ethn., Washington, D. C., 1919, pp. 12–13, 46.

> near the Uchee town. Here, however, their stay was of short duration and they soon removed to the Tallapoosa, probably to be near the French post at Fort Toulouse. Others who had not joined in this movement from the Savannah soon began moving northward along the foot of the mountains. This movement was evidently hastened by the trouble which culminated in the "Yamasee War," in 1715. Passing through the Carolinas, they reached the valley of Virginia, where they established several small villages, with other settlements north of the Potomac. Soon becoming associated with remnants of the Delaware and others, they crossed the mountains and the Ohio and settled within the future State of Ohio. Here they were joined by the Shawnee from the Cumberland, who had been compelled, by reason of the acts of the Chickasaw and Cherokee, to abandon their villages and hunting grounds in central Tennessee and to seek a home beyond the Ohio. The movement from the south began about the year 1714 and was hastened by the pressure exerted by the neighboring tribes. And thus the tribe was again united. (Pp. 12–13.)
>
> * * * * * * *
>
> Passing southward beyond the Ohio the Shawnee evidently established a great town on the banks of the Cumberland, the site now covered by the city of Nashville, Tenn., thousands of stone-lined graves marking the position of the ancient settlement. A description of this once extensive village would be of the greatest interest, but none has been preserved. It may, however, have resembled Pontdalamia on the Illinois. (P. 46.)

Our immediate interest in the Shawnee in this connection lies in the possibility that they may have made settlements on the Tennessee River, and particularly in the region of Wheeler Basin. Haywood[37] seems to clearly indicate that such settlements existed. In describing a map drawn by the French sometime prior to 1725 he says:

> A nation of Indians called the Chevanoes is laid down as settled below the Cherokees in the country adjacent to where Fort Deposit now stands, on the Tennessee, and southwardly of it, which is supposed to be the people now called the Shawnees, who may have settled there under the auspices of their old friends and allies the Cherokees, after the expulsion of the Shawnees from the Savannah River. This conjecture is fortified by the circumstance that the French in ancient times called what is now the Cumberland by the name of the Shauvanon, on which the Shawnees were for many years settled.

On this basis, as well as on other evidence, Street affirms that there were several villages of Shawnees in what is now Marshall County, Ala. Their principal town was near the Tennessee River on Beard's Bluff. The name and exact location of the others in Marshall County are unknown.

Under the circumstances it would appear that any occupancy by the Shawnee of sites in the immediate vicinity of the Tennessee River was probably short, and that the population on such sites was never very large. It would hardly be expected, therefore, that archaeological evidence of their occupancy would be very extensive.

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[37] Haywood, John. Civil and Political History of the State of Tennessee. 1823, p. 40.

The eviction of the Shawnee from the Cumberland is important also in its effects on later history. Both the Cherokee and the Chickasaw claimed the honor of having been the immediate cause of Shawnee withdrawal, and as a consequence both laid claim to the lands of central Tennessee as a hunting region.

Of this controversy Royce[38] says:

> In the latter portion of the seventeenth century the Shawnees, or a portion of them, had their villages on the Cumberland, and to some extent, perhaps, on the Tennessee also. They were still occupying that region as late as 1714, when they were visited by M. Charleville, a French trader, but having about this time incurred the hostility of the Cherokees and Chickasaws they were driven from the country. Many years later, in the adjustment of a territorial dispute between the Cherokees and Chickasaws, each nation claimed the sole honor of driving out the Shawnees, and hence, by right of conquest, the title to the territory formerly inhabited by the latter. The Chickasaws evidently had the best of the controversy, though some concessions were made to the Cherokees in the matter when the United States came to negotiate for the purchase of the controverted territory.

Thus it would appear that the Shawnee were on the Tennessee River as late as 1714. The Chickasaw claim to sole ownership by right of conquest is supported by Haywood,[39] who in quoting the Chickasaw tradition relative to relation with the Shawnees says:

> The Chickasaws formerly claimed for their nation, exclusively, all the lands north of the Tennessee, and they denied that the Cherokees were joined with them in the war against the Shawnees when they were driven from their settlements on Cumberland. They said that the Shawnees first came up the Tennessee in canoes, and thence up Bear Creek 30 miles; and there left their canoes, and came to war with the Chickasaws, and killed several of their nation. The Chickasaw chiefs and warriors embodied and drove them off. From thence they went to the Creeks, and lived with them for some time. They then returned and crossed at the Chickasaw Old Field, above the Muscle Shoals. From thence they went to Duck River and the Cumberland River, and settled there; and the Chickasaws discovered their settlements. Two of the chiefs of the Chickasaws, who were in those days their principal leaders—the one named Opoia Matehah, and the other Pinskey Matehah—raised their warriors and went against the Shawnees, and defeated them and took all their horses and brought them into the Nation. The Cherokees, they said, had no share in the conquest, and they drove the Shawnees themselves, without any assistance from any red people. They concluded, therefore, that the Cherokees had no claim to the lands north of the Tennessee, as set up by them, for having been, as they pretended, the associates of the Chickasaws in this war.

The Cherokee side of this controversy seems to be supported by Street, who quotes stories told by the Cherokees to Gen. S. K. Rayburn, an influential citizen, who came to Marshall County, Ala., before the removal of the Cherokees to the west and who had an intimate knowledge of the Cherokee history and traditions because of his long contact with them. Street reports that the Cherokees told General Rayburn that the Chickasaws took little part in driving the Shawnees out of the Tennessee Duck River region, but that the Chickasaws' chief accomplishment was in forcing the Shawnees from the Cumberland River across the Ohio.

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[38] Royce, C. C. The Cherokee Nation of Indians. Fifth Ann. Rept. Bur. Ethn., Washington, D. C., 1883, p. 144.

[39] Haywood, John. Civil and Political History of the State of Tennessee, 1823, p. 426.

Whatever the relative merits of the two claims, both of these tribes, as well as the Iroquois, made treaties with Government agencies at various times in which they undertook to cede title to portions of this territory.

This dispute as to ownership ultimately led to war between the Cherokees and the Chickasaws. The importance attached to this controversy grew as white settlement from the east pressed upon the Cherokees and caused detached groups of them to move down the Tennessee River, at the same time the Chickasaws were feeling pressure from the south and wished to extend their settlement eastward onto the Tennessee River.

THE CHICKASAW ON TENNESSEE RIVER

It is not known when the Chickasaw first made settlements on the Tennessee River. The tribe was first made known to history by the De Soto narratives, according to Swanton.[40] From 1540–41, when they very nearly destroyed De Soto and all of his band, to the close of the eighteenth century, they were often found at war. They were brave, aggressive in defense of their lands, and always loyal to the British interests, and later to the American colonies. In 1715 they were at war with the Shawnee. In 1729 the French held them responsible for the Natchez uprising. Bienville from Mobile with the aid of the French from the Illinois sought to crush them. The last of these attempts was in 1740. In 1768 they were at war with the Cherokee and in 1793–95 with the Creeks who invaded the Chickasaw territory.

So much warlike activity had two results on the occupancy of their territory. First, the main body of the Chickasaws was compelled to live in a rather compact settlement for purposes of defense. Adair, who lived with them about 1740, explains how they had arranged for mutual defense, and he indicates how the tribe had been reduced in number by constant wars. Adair[41] says:

> The Chikkasah in the year 1720, had four contiguous settlements, which lay nearly in the form of three parts of a square, only that the eastern side was 5 miles shorter than the western with the open part toward the Choktah. One was called Yaneka, about a mile wide and 6 miles long, at the distance of 12 miles from their present towns. Another was 10 computed miles long, at the like distance from their present settlements, and from 1 to 2 miles broad. The towns were called Shatara, Chookheereso, Hykehah, Tuskawillao,

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[40] Swanton, John R. Early History of the Creek Indians and Their Neighbors. Bull. 73, Bur. Amer. Ethn., Washington, D. C., 1922, p. 414.

[41] Adair, James. The History of the American Indian. London, 1775, pp. 352–353.

> and Phalacheho. The other square was single, began 3 miles from their present place of residence, and ran 4 miles in length, and 1 mile in breadth. This was called Chookka Pharaah, or "the long house." It was more populous than their whole nation contains at present. The remains of this once formidable people make up the northern angle of that broken square. They now scarcely consist of 450 warriors, and are settled 3 miles westward from the deep creek, in a clear tract of rich land, about 3 miles square, running afterwards about 5 miles towards the NW. where the old fields are usually a mile broad. The superior number of their enemies forced them to take into this narrow circle, for social defence; and to build their towns on commanding ground, at such a convenient distance from one another as to have their enemies, when attacked, between two fires.

The second effect produced by long-continued wars was to cause small bands to seek permanent settlement far removed from the main body of the tribe, perhaps in the hope of securing peace. At any rate, according to Swanton about 1730 there was a band as far east as New Windsor, S. C., and about 1755 there was a band near Augusta, Ga. Of all these scattered remnants, the one of most interest in this connection is that mentioned by Swanton when he says:[42]

> Still another outsettlement was on the lower course of the Tennessee River, where it is mentioned by Coxe[43] and some other very early writers, but it was soon abandoned for the main settlements. In comparatively late times a small body settled temporarily on the Ohio.

It is possible that this settlement on the lower Tennessee is the same as that mentioned by Street[44] as the village near the mouth of Elk River. Of this he says:

> About 1765, the Chickasaws formed a settlement on the north bank of the Tennessee about three miles above Whitesburg, at the upper end of the island now known as Hobb's Island, but formerly as Chickasaw Island. This place became well known by the name of the "Chickasaw Old Fields." No other Chickasaw village was nearer to this than about the mouth of Elk river, 25 or 30 miles lower down the Tennessee. This settlement gave great offense to the Cherokees, who at once went upon the warpath against the Chickasaws. In 1769 a great battle was fought at the new village, in which the Chickasaws, though victorious, purchased their success so dearly that they at once determined to return nearer the main body of their people.

In discussing the treaty of March 22, 1816, Royce[45] quotes from a letter by Indian Agent Meigs which also refers to the settlement at Chickasaw Old Fields as follows:

> From a letter of Agent Meigs bearing date December 26, 1804, it seems that he was just in receipt of a communication from the Chickasaw chiefs relative

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[42] Swanton, John R. Early History of the Creek Indians and Their Neighbors. Bull. 73, Bur. Amer. Ethn., Washington, D. C., 1922, p. 419.

[43] Coxe, Daniel. A Description of the English Province of Carolina. By the Spanish called Florida, and by the French, La Louisiane. London, 1741, p. 229.

[44] Street, Oliver Day. The Indians of Marshall County, Ala. Publications of the Alabama Historical Society. Transactions, 1904, p. 205.

[45] Royce, Charles C. Fifth Ann. Rept. Bur. Ethn., Washington, D. C., p. 208. 1887.

> to their claim to lands on the north side of Tennessee River. The chiefs assert that part of their people formerly lived at a place called Chickasaw Old Fields, on the Tennessee, about 20 miles above the mouth of Elk River; that while living there they had a war with the Cherokees, when, finding themselves too much separated from their principal settlements, they removed back thereto. Afterwards, on making peace with the Cherokees, their boundaries were agreed on as they are defined in the instrument given them by President Washington in 1794.
>
> They further state that they had a war with the Shawnees and drove them from all the waters of the Tennessee and Duck Rivers, as well as conflicts with the Cherokees, Choctaws, and Creeks, in which they defeated all attempts of their enemies to dispossess them of their country.
>
> Agent Meigs remarks that he is convinced the claim of the Chickasaws is the best founded; that until recently the Cherokees had always alluded to the country in controversy as the hunting ground of the four nations, and that their few settlements within this region were of recent date.

It would seem, therefore, that there was a Chickasaw settlement at the mouth of Elk River which preceded the settlement at Hobbs Island by some considerable time. While it appears from this account by Street that Hobbs Island or Chickasaw Old Fields was only occupied for 4 years, from 1765 to 1769, it would seem that from the account of Chickasaw history and tradition as recorded by Schoolcraft,[46] they remained in this locality for a much longer period, i. e., about 72 years. He says:

> By tradition, they say they came from the West; a part of their tribe remained in the West. When about to start eastward, they were provided with a large dog as a guard, and a pole as guide; the dog would give them notice whenever an enemy was near at hand, and thus enable them to make their arrangements to receive them. The pole they would plant in the ground every night, and the next morning they would look at it, and go in the direction it leaned. They continued their journey in this way until they crossed the great Mississippi River; and, on the waters of the Alabama River, arrived in the country about where Huntsville, Ala., now is: there the pole was unsettled for several days; but, finally, it settled, and pointed in a southwest direction. They then started on that course, planting the pole every night, until they got to what is called the Chickasaw Old Fields, where the pole stood perfectly erect. All then came to the conclusion that that was the "Promised Land," and there they accordingly remained until they emigrated west of the State of Arkansas, in the years 1837 and 1838.
>
> While the pole was in an unsettled situation, a part of their tribe moved on East, and got with the Creek Indians, but as soon as the majority of the tribe settled at the Old Fields, they sent for the party that had gone on East, who answered that they were very tired, and would rest where they were a while. This clan was called Cush-eh-tah. They have never joined the parent tribe, but they always remained as friends until they had intercourse with the whites: then they became a separate nation.

In this statement the reference to the Mississippi River must have been intended for the Tennessee River.

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[46] Schoolcraft, Henry R. Origin, History, and Condition of the Chickasaws. Indian Tribes of the United States. Pt. I. Philadelphia, 1853, p. 309.

It would thus appear that while the Chickasaw had long laid claim to the lands of the Tennessee Valley in what is now western Tennessee and Kentucky as a vast hunting ground held in common with the Cherokee and the Iroquois, their settlement in Marshall County at Hobbs Island and Elk River is the only historic record of their actual settlement in the region of Wheeler Basin.

THE CHEROKEE ON THE LOWER TENNESSEE

This powerful tribe residing in the Allegheny Mountain regions of Virginia, North and South Carolina, and Georgia, early came into contact with the English on the Atlantic seaboard. It was about the close of the seventeenth century that accurate historic data concerning the Cherokee Nation began to accumulate as the result of contact with the English. The Cherokees had a powerful division of their tribe, the Over Hill Cherokees, settled on Little Tennessee River. One of these settlements, "Chote," was the capital of the nation. The British Colonial governors, and later the United States, greatly desired to live at peace with the Cherokees, but war was inevitable. The encroachment by the white settler on the Cherokee territory led to wars, reprisals, change of boundaries, and treaty after treaty as the Cherokees were dispossessed of their lands and forced westward. Fort Loudoun, built on Little Tennessee River as a gesture of friendship in 1756, was destroyed by the Cherokees in 1760. It was then, in 1762, that Lt. Henry Timberlake [47] visited the Over Hill Cherokee country and drew his famous map showing the location of their towns, and recorded much valuable information concerning them.

During most of the eighteenth century the Cherokees were constantly at war. They fought against the Shawnee on the Cumberland, the Chickasaw to the west, the Creeks to the south, and often were in conflict with armies of the colonies and early settlers. The settlements of these disputes, by treaty after the various wars, always resulted in a loss of land by the Cherokees. Royce [48] shows that between 1721 and 1835 the Cherokee Nation made 36 treaties and cessions of land. In the last treaty of December 29, 1835, they gave up all title to lands east of the Mississippi. It is thus apparent that the Cherokee had much reason to desire to move westward, out of range of the constant pressure of white settlement from the east.

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[47] Timberlake, Lt. Henry. The Memoirs of Lt. Henry Timberlake. London, 1765. Reprint. The Wautauga Press, Johnson City, Tenn., 1925.

[48] Royce, Charles C. The Cherokee Nation of Indians. Fifth Ann. Rept. Bur. Ethn., Washington, D. C., 1887, p. 129.

How early they came upon the Tennessee River proper to settle is not surely known. Pickett[49] says:

> * * * as early as 1623, the Cherokees coming from the neighborhood of Charleston, S. C., "founded towns upon the main Tennessee, extending as far as the Muscle shoals. They found all that region unoccupied, except the Cumberland, where resided a roving band of Shawnees. But the whole country bore evidence of having once sustained a large Indian population."

This date for the first Cherokee settlement on Tennessee River is clearly in error. Royce[50] asserts that this error of Pickett is due to his acceptance as fact a statement of Haywood which was given as legend rather than fact.

It is commonly believed by historians that the Cherokee did not settle on the lower Tennessee River proper until the latter part of the eighteenth century. Of the Cherokee migrations westward and southward along the Tennessee, Street[51] says:

> At this time, 1623, and indeed for nearly a century and a half later, there were no Cherokee settlements in the region mentioned.
>
> About 1777, Wills' Town was established by the Cherokees on Big Wills Creek a short distance above the present village of Lebanon in DeKalb County, Ala., and about the same time Turkey Town was built by them on the Coosa River opposite the site of the present town of Centre, Cherokee County, Ala. About 1777, a band of Cherokees, subsequently known as Chickamaugas, who were especially hostile to the whites, being dissatisfied with the treaties of May 20 and July 20, 1777, moved themselves considerably lower down the Tennessee, and established their villages on Chickamauga Creek, a few miles above the present city of Chattanooga. But in consequence of the destruction of their towns by Col. Arthur Campbell and Col. John Sevier, they broke up their settlements here in 1782, and founded still lower down what are known in history as the "Five Lower Towns on the Tennessee," named in their order Running Water, Nickajack, Lookout Mountain Town, Long Island Town, and Crow Town. The first two were just within the limits of the present State of Tennessee on the south side of the river a few miles below Chattanooga; the third was where Trenton, Ga., now stands; Long Island Town was on the island in Tennessee River at Bridgeport, Ala.; Crow Town, the largest, was in the present Jackson County, Ala., on Crow Creek, and about one-half mile from its confluence with the Tennessee. Long Island and Crow Town were the first Cherokee settlements established within historic times west of the height of Cumberland and Sand Mountains, and this took place as we have seen about 1782. By the close of the Revolution and the consequent rapid spread of the whites, the movement of the Indian settlements toward the west was greatly accelerated. By 1790, the Cherokees had founded two villages in Marshall County, one where Guntersville now is, and the other, called Creek Path, 4 miles south in Brown's Valley, at the place known as the "Old Missionary," on the Old Russell farm. Creek Path village acquired its name from the fact that it was located on the trail followed by the Creeks in going to and from the hunting grounds of Mid-

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[49] Pickett, Albert J. History of Alabama, and incidentally of Georgia and Mississippi from the earliest period.

[50] Royce, Charles C. The Cherokee Nation of Indians. Fifth Ann. Rept. Bur. Ethn., Washington, D. C., 1887, p. 136.

[51] Street, Oliver Day. The Indians of Marshall County, Ala. Publications of the Alabama Historical Society. Vol. IV. Montgomery, Ala., 1904, pp. 206, 207.

dle Tennessee and Kentucky. It led from the Coosa across Raccoon, or Sand Mountain, to Brown's, or Thompson's Valley, thence by the Creek Path village to "the shoals" across Tennessee River near Beard's Bluff. These shoals were fordable in the summer and fall and were known as the Lower Creek crossing.

Gunter's village, as well as the modern town of Guntersville, was named for John Gunter, a full-blooded Scotchman (some say a Welshman), who settled among the Cherokees, probably during the Revolution on account of his Tory sentiments, and came with them to this country. He had married an Indian woman and had been adopted into her tribe and was the head-man of the village which bore his name.

Most of these later villages were occupied to 1835 when all of the Cherokees by treaty gave up their land and removed to the Indian Territory, which later became a part of the State of Oklahoma.

Such settlements of Cherokees, made in the late historic period before their removal to the west, could hardly be expected to have produced any considerable archaeological record. It is doubtful if any definite trace of Cherokee occupancy can be found on the lower Tennessee River within the confines of Wheeler Basin.

The Creeks and Other Tribes on Lower Tennessee River

The Creeks claimed all territory south of the Tennessee River westward to the Chickasaw country. They were divided into two great groups of settlements—the Upper Creeks, living on the Coosa and Tallapoosa Rivers, and the Lower Creeks, living on the Chattahoochee and Flint Rivers. This great tribe, known as the Creek Confederacy, in the early historic period took into its organization many tribal remnants, which for one reason or another had become diminished in strength due to war or had been dispossessed of their territory by others. Some of these increments to the Creek Confederacy were not of Muskhogean origin, and therefore spoke a different language. Some of these people appear to have had settlements on the Tennessee River prior to white contact, and it is probable that some of the archaeological sites in this region may be ascribed to them. Of these peoples Swanton[52] says:

> We have had occasion to notice several tribes or portions of tribes in the valley of the Tennessee or even farther north whose history is in some way bound up with that of the better-known peoples of the Creek Confederacy. Thus the Tamahita came from the upper Tennessee or one of its branches, part of the Koasati and part of the Tuskegee were on the Tennessee, and there are indications that the same was true of part of the Tamali. Perhaps another case of the kind is furnished by the Oconee. Still another people divided into a northern and southern band were the Yuchi, whose principal residence was Savannah River, but part of whom were on the Tennessee. There were, however, two tribes in the north not certainly represented among the southern Muskhogeans and not certainly Muskhogean, but of sufficient importance in connection with the general problem of southern tribes to receive notice here.

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[52] Swanton, John R. Early History of the Creek Indians and Their Neighbors. Bull. 73, Bur. Amer. Ethn., Washington, D. C., 1922, p. 211.

These two tribes were the Tali said by Coxe[53] to occupy several islands on the Tennessee River, and the Kaskinampo who were thought to have been associated with the Shawnee. Thus it appears that there were a number of smaller tribes of whose history and connection we know but little, who at the very beginning of white contact in this region were found living on the lower portion of the Tennessee River. The exact locations of these settlements in some cases is as uncertain as the history of the people who made them. The most exhaustive study of these groups by Swanton[54] is summed up by him as follows:

> The following tribes are known to have lived upon the middle and lower courses of Tennessee River:
>
> 1. A band of Chickasaw who were settled a few miles above the mouth of this river at the very end of the seventeenth century and the beginning of the eighteenth.
> 2. A band of Yuchi during the same period, located at or just above Muscle Shoals.
> 3. A band of Indians called Tali, probably part of the Cherokee, at the great bend, who occupied the country for over a hundred and fifty years.
> 4. The Kaskinampo, probably, as we have seen, relatives of the Koasati and occupants with them of Pine Island for a few years at the opening of the eighteenth century.
> 5. The Koasati, on Tennessee river, presumably on Pine Island, from 1540 until some date subsequent to 1715.
> 6. A band of Tuskegee, on or near Long Island for a few years during the first half of the eighteenth century.
> 7. A band of Chiaha Indians, people seemingly connected in speech with the Hitchiti and Yamasee, and probably located on Burn's Island, their incumbency in any case being known to extend from 1540 to 1567 and perhaps much longer.
>
> Shawnee villages are placed on Tennessee river somewhat above any of the sites just mentioned on many early maps, but this may have been due to a confusion of the Tennessee and Cumberland rivers. The name of Savannah, county seat of Hardin County, Tenn., suggests the presence of this tribe at a point much farther down and, even though they did not remain long upon this stream, they are known to have crossed it several times on their way to and from the Creek Nation. At the best their occupancy was evanescent.

On a map compiled by Swanton[55] in 1919 showing "Territory of the States of Georgia and Alabama illustrating the geographical distribution of the tribes and towns of the Creek Confederacy," there is shown Chickasaw Old Field at Hobb's Island, Melton's village (Creek) as mentioned by Street, and the Koasati settlement on Pine Island. Downstream from Chickasaw Old Fields, Swanton has located three other Creek settlements. They are all on the south side of the Tennessee River. One appears to be at the mouth of Cotaco Creek on the west side and is designated as "Ancient Creek Town." Farther down the Tennessee River at the mouth of Flint Creek and on the west side is a site designated Creek Settlement. Still farther downstream below Muscle Shoals is another "Creek Settlement," which would seem to be very near the present village of Pride, in Colbert County, Ala.

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[53] Coxe, Daniel. A Description of the English Province of Carolina. By the Spanish called Florida, and by the French, La Louisiane. London, 1741, p. 229.

[54] Swanton, John R. The Kaskinampo Indians and Their Neighbors. American Anthropologist, vol. 30, No. 3, pt. 1, 1930, p. 418.

[55] Swanton, John R. Early History of the Creek Indians and Their Neighbors. Bull. 73, Bur. Amer. Ethn., Washington, D. C., 1922, pl. 2.

Relative to the later Creek settlement on Tennessee River, Street[56] says:

> The settlement of the Cherokees in this region (Melton's village) and the frequent passage of the Creeks to and from the hunting grounds north of the Tennessee, soon brought the two tribes to blows. On one of these expeditions, the Creeks were returning laden with the spoils of the chase, had recrossed the Tennessee at "the shoals," and were ascending Beard's bluff, along the same route where the Guntersville and Deposit public road now runs, when they were suddenly startled by a war-whoop and immediately assailed by a strong party of Cherokees in ambush. The Creeks, though taken by surprise and inferior in numbers, valiantly fought their way up the bluff, about a hundred feet high at this point, and for some distance along its summit, but were finally overpowered. The remnant of the vanquished scattered to the woods and many escaped, but most of the Creek braves were killed or captured.

In a footnote he adds:

> Gen. Rayburn is my sole authority for this battle. He had heard the account often from the Cherokees who told him it occurred about 1785. When he first settled in this country about 1830, human bones were frequently picked up on the bluff.

It would thus appear that in protohistoric times there are definite suggestions of settlement by Shawnee, Chickasaw, Cherokees, and Creeks on the portion of the Tennessee River in the State of Alabama as well as evidence of the settlement of a number of lesser tribes whose affiliation is uncertain, and whose history is largely unknown. The great wealth of village sites in this region definitely suggests that many, if not most, of them are prehistoric, whose interpretation must depend upon archaeological investigation, supplemented by studies in the ethnology of the historic tribes of the southeastern United States.

CONCLUSIONS

Site Lu° 86

The outstanding feature of this shell mound is the obvious stratification of culture complexes presented.

All burials of bodies in the flesh were in the upper portion, mostly within 3 feet of the present surface; none were lower than 6 feet in the mound, which had a maximum depth of 13 feet. With these burials were associated marine shells, pottery vessels, and a small amount of copper. These burials were made in a shell midden containing much flint and many potsherds. These flint objects were mostly side notched projectile points, evidently made on the site. The potsherds show high development in the ceramic art and represent a varied complex.

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[56] Street, Oliver Day. The Indians of Marshall County, Ala. Publications of Ala. Hist. Soc., 1903, p. 209.

Below this level, in the lower 6 or 7 feet of this extensive mound, there were no burials, no pottery, and no notched projectile points. There was much evidence of flint working, but the products were broad-bladed knives and spear points, many with bases nearly square. The finding of these spear points in great number, together with many broken points and bases of the same type, and a bone atlatl, in the lower section of the mound where smaller projectile points commonly regarded as arrows were absent, definitely suggests the use of the spear and atlatl instead of the bow and arrow. Clearly this lower level of shell containing no potsherds was laid down by a people who seemingly did not bury bodies in the flesh. Many fragments of broken human bones, some burned, were found scattered through the shell midden.

Some time about 1917, just before the building of Wilson Dam and the flooding of the basin of Wilson Lake, Fowke [57] investigated for the Bureau of American Ethnology a shell heap in the extreme northeastern corner of Colbert County, Ala., on the bank of Town Creek near its mouth on Tennessee River. This shell mound was thus south of the Tennessee River and downstream about 6 miles southwest as a crow flies from Site Lu° 86. The depth of shell found by Fowke on this Town Creek mound was about 9.5 feet. He does not appear to have observed any clear stratification in the mound, but, from the artifacts reported and from his general description of the shell heap, one is driven to conclude that conditions here were quite similar to those of Site Lu° 86. In fact, so much alike are the artifacts and other cultural traits, one must conclude that they were built by the same people, since they were but 6 miles apart by river. There is this difference, however, that in the Town Creek midden there seems to have been more of the later cultural complex which most closely resembles the upper stratum of Site Lu° 86 than of the earlier cultural complex forming the base of Site Lu° 86. Fowke reported the removal of 19 burials, a small quantity of potsherds, and other material evidence quite similar in type to that possessed by the later people at Site Lu° 86. Most important, however, it seems, is the finding of two beautiful, nearly complete bone ends of atlatls shown in (*a*) and (*b*) plate 73. Fowke does not seem to attach any significance to these, but describes them as "two peculiarly worked bones of unknown use."

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[57] Fowke, Gerard. Archeological Investigations—II. Forty-fourth Ann. Rept. Bur. Amer. Ethn., Washington, D. C., 1928, p. 446.

The seeming certain separation of side-notched arrow points from broad spear points, in Site Lu° 86, and the finding of a bone atlatl end with the spear points, seem most significant to the author. One may well ask why evidence of the atlatl does not appear in numbers comparable to the spear points. The answer to that may be that there were of course many more spears than throwing sticks, and in all probability most of the throwing sticks were made of wood and have, like the bows and arrow shafts of later peoples, long ago disappeared. Those which had tips made of carved bone or horn must have been quite unusual and relatively rare, even in a society which probably did not use the bow, and therefore the finding of even a few bone atlatl tips seems *very significant.* From a careful investigation of the occurrence of these flint spear points and their association, the author is convinced that a spear-throwing, hunting, and fishing people who made no pottery and used no bows and arrows, laid down the great shell midden at the base of the mound Site Lu° 86.

Another and perhaps very important similarity seems to have existed at Site Lu° 86 and in the Town Creek mound as reported by Fowke. In Site Lu° 86 several prepared clay floors were found in the shell heap. It appeared that fire basins were made by bringing upon the shell heap clay or earth from elsewhere. Associated with these fireplaces were numerous hearths made of large river pebbles, and sometimes holes were dug in the shell heap for cooking. These holes were similar to those constructed by present-day man in making a "clambake". There was much evidence, therefore, of fire on various levels throughout the shell heap. Such fires had naturally calcined the shells on which they were built, as well as all other material in association. This material often consisted of the bones of birds, fish, and large animals. Not infrequently the burned fragments of human bones were found in association.

Evidently very similar conditions existed at Town Creek mound as reported by Fowke. However, the finding of such dismembered, broken, and charred human bones by Fowke led him to definitely assert the practice of cannibalism. In one such instance, referring to a small pile of bones, he says:

> It is difficult to avoid the conviction that these fragmentous bones were the remnants of a cannibal feast. At several other places in the trench were discovered human bones similarly broken and scattered and pointing to the same conclusion.[58]

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[58] Fowke, Gerard. Archeological Investigations—II. Forty-fourth Ann. Rept. Bur. Amer. Ethn., Washington, D. C., 1928, p. 442.

Again he says of a burial:

> Eighteen inches below the top of the mound were portions of the skeleton of a youth; the bones were not "knit." There were parts of a femur, of two tibial fragments, of skull, of ribs, of the pelvis, some vertebrae, two bones from the foot. These were scattered in confusion as if thrown from a basket. There can be no doubt that this individual appeased the longings of some persons who were desirous of a change of diet.[58]

As pointed out, the author believes from the description of Town Creek mound that the conditions under which it was laid down were quite similar to those of Site Lu° 86.

Although scattered human bones were found about the fire beds and hearths at Site Lu° 86, and some of the bones were partly calcined, the author hesitates to accept such findings as positive proof of cannibalism. Cannibalism seems to have existed to some extent among the west Gulf coast tribes in prehistoric times as indicated by Swanton.[59] In speaking of the Indians of the southeastern United States he says:

> Although the bodies of the dead enemies were atrociously mutilated, no cannibalism was practiced by most of the tribes except that the heart of a courageous foe was usually devoured so that the victor might acquire courage. In the extreme southwest of the area under consideration, among the Atakapa and the tribes to the west of them, cannibalism of a more genuine kind was indulged in, but these tribes did not actually form part of the southeastern culture center.
>
> * * * * * * *
>
> The Atakapa, although upon the coast of the Gulf of Mexico, were actually just beyond the southeastern area proper. Along with the tribes westward of them, to and beyond Rio Grande, they were characterized by a loose organization, a low culture, and the existence of cannibalistic practices in something more than merely ritual form.

Since cannibalism was also known to a very limited extent in the Great Lakes region in early historic times,[60] the possibility of the custom in north Alabama in prehistoric times cannot be positively denied. However, the assumption seems unnecessary at Site Lu° 86, if we remember how many primitive peoples exposed the dead in trees, on scaffolds, and otherwise, for short periods, later gathering the bones denuded of the flesh and burying them in or near their abode. Such burials of bones in a shell heap would easily lead to the scattering of bones, many of which might be badly broken and crushed before burial. The constant living of many people on a shell midden, as is evidenced by the use of fires, the constant digging in the shell layers to make fireplaces, "clambakes," or as Fowke calls them "barbecue holes," would easily account for the scattering of any bone burial, or the deposit of broken human bones from a tree or scaffold exposure. Further, the chance burning of many scattered fragments is to be expected under such conditions.

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[59] Swanton, John R. Aboriginal Culture of the Southeast. Forty-second Ann. Rept. Bur. Amer. Ethn., Washington, D. C., 1928, p. 705.

[60] Radin, Paul. The Winnebago Tribe. Thirty-seventh Ann. Rept. Bur. Amer. Ethn., Washington. D. C., 1923, p. 54. (Quotes Lawson to the effect that Winnebagos ate envoys sent to them by the Ottawas and other messengers sent to them by the Illinois)

The finds rather, it would seem, are to be regarded as definite proof of considerable disturbance of the shell mass which was constantly receiving new increments at the top due to continued occupations on its surface. Besides the natural settling of a shell mound there is always much erosion of its sides due to slipping and crawling of the shell and redeposit due to the forces of nature, as well as the action of man. Coupled with these forces, if it may be proven as was here apparent, that the occupants did considerable digging in the surface at all times, the scattering of bone burials is easily understood. Because of these considerations, the author does not deem it absolutely necessary to assume cannibalism at Site Lu° 86 in order to account for its condition as revealed by this exploration.

Finally, it is believed that not only Site Lu° 86 but also Town Creek shell mound in Colbert County, Ala., show evidence of a very early and perhaps rather primitive people living largely on shellfish and the products of the river, with perhaps a minimum of hunting and little or no agriculture. These people, who made no pottery, surely used the "throwing stick" instead of the bow, and seemingly were constrained to reside near the bank of the Tennessee River which was their chief source of food. Future excavation of shell mounds in the general regions should contribute to a fuller knowledge of these spear-throwing people, and to a determination of the possibility of the practice of cannibalism on such sites.

The later people of Site Lu° 86, the makers of notched arrow points and net sinkers, are responsible for the potsherds found scattered in the shell, and they were, therefore, the builders of the upper portion of this midden. However, it is not certainly proven that the people who buried in this midden are the same people who built its upper portions. They may be identical, but it is to be observed that there is considerable difference in the pottery and other artifacts from these graves, when compared to the material from the general digging in the upper layers.

SITE Ct^{v} 17

This site is typical of many in Colbert County, Ala. The number of such sites, and the considerable size of some, such as Ct^{v} 17, emphasize how very dependent the early inhabitants were on the bounty of the river.

There was no discernible stratification in this extensive shell midden. The flint artifacts were quite similar to the upper levels of

Lu° 86, as shown by stemmed arrowpoints. The potsherds were similar, but a number of paddle-impressed sherds found here differed markedly from the pottery complex of Lu° 86.

The outstanding features of these shell mounds were the prepared clay floors and the hearths which were made in them. These features show definitely that during the deposit of the shell the middens were the places of abode of the people who brought the shell upon the mounds. Those who died during this occupancy were buried in shallow graves in the shell heap—the grave being intruded only a little way into the surface existing at that time. The dog was highly regarded and carefully buried in the shell.

While the pottery art must have been highly developed, to judge by the sherds scattered throughout the mound, no pottery vessels were used as mortuary offerings at this site, and no evidence of a knowledge of the smoking customs was observed.

SITE LA° 13

This site, on Tick Island, was a burial mound quite in contrast to other sites in the vicinity.

While it is not possible at this time to connect it with any other sites or with any known racial stocks, yet it appears to have quite a number of distinctive cultural traits.

The use of pottery in quantity as burial offerings is not so surprising as the fact that nothing else was used for such a purpose. While some burials were extended, others were flexed or deposited as bundle burials of bones. Yet the most common practice was the burial of the detached skull, without any apparent interment of the remainder of the body, at least in the mound.

All mortuary vessels were shell tempered, while detached sherds, incorporated in the earth, which seemed to have been taken from a nearby village site, were all gravel or sand tempered. The very unusual open bowl, with much elevated strap handles and rows of raised protuberances, represents a type found by Moore in many sites along the Tennessee River in north Alabama. However, he does not seem to have found—at least he does not report—associated traits of exact similarity. His excavations at sites yielding this type of pottery were very hasty, being in most cases limited to digging a pit into a mound. Such pits yielded a specimen or two of these very unusual vessels, but gave such very limited information as to their occurrence that it is not possible to positively connect any site producing them with Site La° 13.

To facilitate future comparison of this site with others, a list of traits definitely observed is here appended.

(1) All burials in the mound were inclusive.

(2) Burial forms were varied. Burials of bodies in the flesh extended, flexed, or partially flexed, and bundle burials of bones occurred.

(3) Frequently only the detached head was buried; the remainder of the body was absent.

(4) Pottery was used extensively as mortuary offerings.

(5) Potsherds inclusive in the mound were all sand or gravel tempered.

(6) All burial pottery was shell tempered.

(7) There were no other artifacts with burials.

SITE Li^v 36

This site on Mason Island is clearly a part of the site investigated by Moore[61] and reported by him as a dwelling site on Mason Island. Evidence of pits excavated by him were still apparent, and local traditions pointed to the year 1914. Moore excavated "Mound A" west of a river cut or ravine, and this excavation was in "Mound B" east of the ravine. It is quite possible that these two sections were originally part of the same extended site.

Moore reported 52 burials, of which some 30 had artifacts and all were flexed more or less closely except one—an extended burial of an adult. This finding is quite in accord with the last investigation, though the percentage of graves having artifacts as reported by Moore is slightly larger than that found in this later work.

There can be no doubt that the shell midden was a place of residence. No vestige of dwellings themselves remains, but clay hearths showing the action of fire marked dwelling-house floors. The burial of dogs by the fire hearth, as well as the wide variety of potsherds (some of which were decorated with red paint), seem to suggest some Muskhogean connection, but the information is much too meager to draw definite conclusions.

HOBBS ISLAND SITE

This island, in the southeastern corner of Madison County, Ala., was called Chickasaw Island because it was near the site of the historic settlement of the Chickasaws made on the north bank of the Tennessee River about 3 miles above Whitesburg. This site was designated "Chickasaw Old Field" on Swanton's[62] map of 1919. This occupancy, according to Street,[63] was not a very lengthy one, beginning about 1765 and ending about 1769. It probably did not involve a very great population. At any rate, the positive archaeological proof of Chickasaw occupancy is very slight, although connection with some Muskhogean group seems positive. The difficulty of connecting this site with historic Chickasaw comes from the wide discrepancy in the form of burials here and that commonly held to be definitely customary for this people in historic times. Bushnell[64] quotes Romans[65] and Adair[66] to show that the universal custom of the Chickasaw was to bury the dead in graves made in the floor of the dwelling house of the deceased. The use of the house was continued by the family, and beds were often constructed immediately over the graves. Bushnell also quotes Putnam[67] to show that sites have been found where graves—in one case stone graves—have been found definitely under the floors of dwelling houses.

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[61] Moore, C. B. Aboriginal Sites on Tennessee River. Journal Academy of Natural Sciences of Philadelphia, 2d series, vol. xvi, pt. 2, 1915, p. 260.

[62] Swanton, John R. Early History of the Creek Indians and Their Neighbors. Bull. 73, Bur. Amer. Ethn., pl. 2. Washington, D. C., 1922.

[63] Street, Oliver Day. The Indians of Marshall County, Ala. Publications of the Alabama Historical Society, 1899–1903, vol. iv, Montgomery, Ala., 1904, p. 193.

Since no evidence of this type of burial was found at Hobbs Island, but a definite use of mounds as places of interment, one is constrained to doubt Chickasaw connection with such mound burials.

Sites Ma° 1 and Ma° 3 were quite similar in general appearance, and the material from them appeared to be due to the same people. The forms of burials, both flexed and extended, burials of bodies in the flesh and in mounds, accompanied by many artifacts, including pottery, seemed to be identical in the two low mounds. Water bottles were commonly used for mortuary purposes at both sites. The most important thing found, however, was the repeated appearance of the symbol of the "four world quarters" at Sites Ma° 1 and Ma° 3. In plate 95 there is presented a circular shell gorget from Site Ma° 1, showing an incised cross, evidently the "four world quarters" surrounded by two circles, presumptively symbols of the encircling "sun," or perhaps the horizon or meeting place of the dome of the sky with the earth. With this is a second gorget, incised to show a pair of strutting turkey cocks facing each other. Here is clearly again the "four world quarters cross." The horizontal bar has been lowered out of symmetry to permit the engraver space to work out the turkey cocks, but otherwise the engraving is symmetric. It is bilaterally symmetric about a vertical through the suspension.

In his excavations at Etowah Moorehead[68] (see figs. 31 and 32 of his report) found, among many other engraved shell gorgets, five, each of which showed a similar excised cross with horizontal bar displaced, and bearing the engraving of a pair of birds facing each other. One of these engravings was a pair of turkey cocks.

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[64] Bushnell, David I., Jr. Native Cemeteries and Forms of Burial East of the Mississippi. Bull. 71, Bur. Amer. Ethn., Washington, D. C., 1920, p. 106.

[65] Romans, Bernard. A Concise Natural History of East and West Florida. New York, 1775, p. 71.

[66] Adair, James. The History of the American Indian. London, 1775, p. 181.

[67] Putnam, F. W. Archaeological Explorations in Tennessee. Eleventh Annual Report, Peabody Museum, Cambridge, Mass., 1878. Pp. 336–360.

[68] Moorehead, W. K. Explorations of the Etowah Site in Georgia, for Phillips Academy, by the Yale University Press. New Haven, Conn., 1932, p. 59.

In Moorehead's report a chapter by Dr. Charles C. Willoughby is entitled "Notes on the History and Symbolisms of the Muskhogeans and the People of Etowah." In discussing these shell gorgets Dr. Willoughby says:

> It may be well to speak more specifically of the cosmic or world symbol, which, in itself or in some of its parts, formed so important a part of the symbolism of the Muskhogean tribes. It was by no means confined to this area, but in no other section of America does it seem to have occupied so conspicuous a place in the culture of the people. To the Indian the world was a body of land like a great island entirely surrounded by water; this was covered by a great dome, across which the sun took its daily course from east to west. The water extended to the lower edge of this sky dome, which formed a great circle enclosing both water and land. The four cardinal points were determined by the course of the sun, and the directions of the winds, which came from the north, south, east, and west. The Indians therefore geographically represented the world by one or more circles enclosing a cross, and with or without a central circle, which symbolized the sun in the zenith, at the period of its greatest power. This doubtless explains why in so many representations of the sun there is a cross in the center; it is the meeting point of the lines of the four directions.

Further, there are shown in plate 95 fragments of another shell gorget. This gorget was very poorly preserved, but quite enough remains to show that it was incised and also excised to show a human figure. The technique of its execution is very similar to that of the shell gorgets found at Etowah, and the figure depicted not unlike those represented. However, because of the extent of damage done by decay, it is not possible to identify certainly the figure represented.

In plate 87, *b*, there is a three-legged water bottle shown, each leg made of a spherical lobe. In form this bottle was quite similar to the three-lobed water bottle figured by Moorehead (fig. 32) from Etowah.

The outstanding artifacts from Site Ma° 3 were two water bottles, shown in plates 96, *a*, *b*; 97. One of these is a long-necked, the other a short-necked bottle, both bearing the "four world quarters cross" and encircling sun elaborately executed by painting out the background, leaving the light cream-colored clay to form the figure. The background paint of one is red, the other dark chocolate color. These bottles in shape, method of painting, and figure presented, were quite similar to a bottle of this type shown by Moorehead for Etowah (fig. 35, *b*, *c*).

These similarities of Ma° 1 and Ma° 3 with Etowah, together with many other minor cultural traits, seem definitely to point to a cultural connection between these sites, and to suggest Muskhogean affiliation for these two mounds on Hobbs Island. (Etowah, in Bartow County, Ga., is only about 100 miles to the east of Hobbs Island.)

While the Chickasaws were a member of this great linguistic family, the cultural traits as exemplified by the burials in these two mounds, together with artifacts recovered, would seem to point away from them, and more definitely to some of their southern kinfolk—in particular to some portion of the Creek Confederacy related to the builders of Etowah.

The village Ma° 5 is perhaps the most recent site on the island. Its deposit of midden was not deep, and cultivation had much reduced it. It may represent the evidence of occupation by the Chickasaw in early historic times.

The large mound Ma° 2 was known, from a preliminary test, to have at least three horizontal clay floors in it. It is a matter of great regret that the available supply of labor was prematurely cut off at this site during this survey, through no fault of those interested in the project. Had this site been fully investigated, it is believed that these floors would have been found to indicate superposition of town houses at this site. It would have been extremely interesting to have determined whether or not post-mold patterns of rectangular structures or of "rotundas" would have been revealed. From superficial evidence the author is inclined to associate Site Ma° 2 with Ma° 1 and Ma° 3 as to its cultural origin. Site Ma° 5 is not necessarily proven to be associated. Site Ma° 4 is surely in part at least due to other peoples, more or less transient, if one may judge by the dissimilarity of potsherds.

As pointed out, this great shell midden has suffered much by erosion of the river in times of high water, and by redeposit of its material, but a superficial inspection of its yield will point out some likeness to Ma° 1 and Ma° 3 and at the same time reveal dissimilarities to other sites on the island.

The fragment of pottery shown in the lower line of plate 106, *b*, is evidently a fragment of a bottom of a water bottle, showing an elaborate sun symbol. This would seem to relate it to similar decorations produced by painting. However, this fragment has its decorations produced by incising, with a very sharp tool, apparently after the vessel was burned. The technique, whatever it was, is quite similar to that used at the great Moundville group in Alabama, as reported by C. B. Moore, and by later investigations of the staff of the Alabama Museum.

While it is not possible to attach any significance to stratification or depth of occurrence at Site Ma° 4 because of so much redeposit of the shell midden, yet it does seem that much of the material recovered lacks definite connection with Ma° 1 and Ma° 3.

The predominance of burials extended in the flesh, their deposit in a shell midden, and the use of carved marine shells as cups placed in the grave, at once suggest the upper and later burials at Site Lu° 86 reported herein.

Finally, it would appear to the author that it is possible to discern three stages of occupancy at this site, which may be listed in the order of age as follows:

(1) The early shell mound builders—Site No. 4, lower levels.

(2) Some Muskhogean groups who came later and who are responsible for Sites Ma° 1, Ma° 3, and perhaps Ma° 5. They left some debris on the shell heap which has been scattered and redeposited.

(3) The later historic Chickasaw, who may be responsible for the village site Ma° 5. They also made their contribution to the shell midden, but in relatively minor quantities.

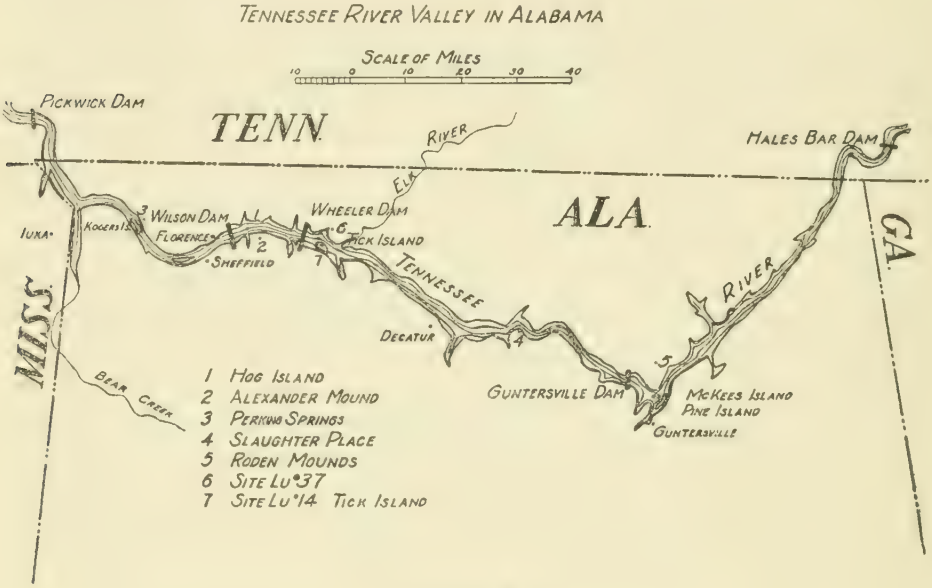
TENNESSEE RIVER VALLEY IN ALABAMA
SCALE OF MILES
10
0
10
20
30
40
PICKWICK DAM
TENN
RIVER
ELK
HALES BAR DAM
ALA
GA
IUKA
KOGERS IS.
3
WILSON DAM
FLORENCE
2
SHEFFIELD
WHEELER DAM
6
TICK ISLAND
7
TENNESSEE
RIVER
DECATUR
4
5
GUNTERSVILLE DAM
MCKEES ISLAND
PINE ISLAND
GUNTERSVILLE
MISS
BEAR CREEK
1 HOG ISLAND
2 ALEXANDER MOUND
3 PERKINS SPRINGS
4 SLAUGHTER PLACE
5 RODEN MOUNDS
6 SITE LU°37
7 SITE LU°14 TICK ISLAND

Figure 25.

Sites La° 37 and La° 14

Because the stone artifacts taken from Sites La° 37 and La° 14 were outstanding of their kind, and because of their definite association with copper artifacts, particularly copper reel-shaped objects, it is essential that the cultural traits here discovered be compared with those reported by other explorers from sites which have yielded these copper reel-shaped objects. The trait of depositing reel-shaped objects of beaten native copper in burial mounds seems to have centered in a comparatively small area, embracing the counties of northern Alabama. A map of the region (fig. 25) shows the location of the sites mentioned in this study.

The other sites which have been selected for comparison may be listed with their locations and explorers as follows:

Hog Island Mound, Colbert County, Ala., reported by Fowke.[69]
Alexander Mound, Lawrence County, Ala., reported by Fowke.[70]
Mounds A, B, C, Perkins Springs, Lauderdale County, Ala., reported by Moore.[71]
Mounds A and B, Slaughter Place, Morgan County, Ala., reported by Moore.[72]
Roden Mounds A to F, Marshall County, Ala., reported by Moore.[73]

TABLE I.—*Cultural traits of Sites La° 37 and La° 14, Wheeler basin, Alabama, compared with those of other sites reported by Fowke and Moore from Alabama*

[X=trait present; 0=trait absent; numbers=amount of occurrence; ?=uncertain, but possible]

	Hog Island Mound (Fowke)	Alexander Mound (Fowke)	Perkins Springs (Moore)	Slaughter Place (Moore)	Roden Place (Moore)	La° 37	La° 14
MOUND STRUCTURE							
(1) Conical earth mounds	X	X	X	X	X	X	X
(2) Mounds with inclusive burial pits	X	X	X	X	X	X	X
(3) Scattered post molds	0	0	0	0	X	0	0
(4) Pits lined or floored with or containing deposits of foreign clay	0	10	12	3	10	0	0
BURIAL TRAITS							
(5) Extended in the flesh	6	13	11	5	67	7	?
(6) Skeleton preservation very poor; little more than trace or outline	X	X	X	X	X	X	X
(7) Deposit of burned human bones, inclusive (perhaps cremation)	0	1	0	0	0	0	1
(8) Skull disarticulated, separated	X	3	2	0	2	?	0
(9) Burial pits below mound base	1	2	5	2	7	7	0
(10) Artifacts accompany subsoil burials	X	X	X	X	X	X	0
(11) Pottery vessels absent from burials	X	X	X	X	X	X	X
(12) Galena as burial furniture	?	13	22	4	20	3	5
(13) Mica as burial furniture	0	0	0	0	1	0	0
(14) Flexed or bundle burials in upper part of mound (some appear to be intrusive)	X	24	2	0	2	X	0
(15) Spades or other exceptional artifacts definitely placed under head of skeleton	2	3	0	0	1	1	2
STONE							
(16) Celts, greenstone, 17″ to 7″ long, pointed pole, high polish	4	12	0	0	8	11	16
(17) Pipes, elbow form	0	2	0	0	0	1	1
(18) Pipes, large zoomorphic, steatite	0	0	0	0	0	1	0
(19) Spades, schist, many large—1x6x26″	4	5	1	0	1	8	7
(20) Flint knives, ovate, finely chipped, 5″ to 8″ long	0	0	1	0	4	0	0
(21) Flat-bar gorget, expanded center, steatite or chlorite	0	1	1	0	0	0	0
(22) Stone artifacts (spades, celts, pipes) intentionally broken and parts deposited together	0	3	0	0	1	1	2
(23) Deposit of galena throughout mound	?	X	30	25	14	8	8

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[69] Fowke, Gerard. Archeological Investigations—II. Forty-fourth Ann. Rept. Bur. Amer. Ethn., 1928, Washington, D. C., p. 446.

[70] Ibid., p. 452.

[71] Moore, C. B. Aboriginal Sites on Tennessee River. Journal of Academy of Nat. Sci. of Philadelphia, 2d series, vol. XVI, pt. 2, 1915, p. 243.

[72] Ibid., p. 276.

[73] Ibid., p. 290

TABLE I.—*Cultural traits of Sites La° 37 and La° 14, Wheeler basin, Alabama, compared with those of other sites reported by Fowke and Moore from Alabama*—Continued

	Hog Island Mound (Fowke)	Alexander Mound (Fowke)	Perkins Springs (Moore)	Slaughter Place (Moore)	Roden Place (Moore)	La° 37	La° 14
SHELL							
(24) Disk shell beads	X	32	X	0	X	0	0
(25) Large marine shell vessels and unworked shells	0	7	2	0	6	0	0
COPPER							
(26) Reel-shaped objects	2	2	2	3	14	5	2
(27) Celts about 5″ long	0	0	1	3	6	0	1
(28) Beads, spherical, drilled	7	20	11	0	0	83	0
(29) Beads, cylindrical, rolled sheets	0	50	30	0	77	42	15
(30) Spool-shaped ear ornaments	0	0	2	2	2	1	2
(31) Long copper bead found with stained teeth (may suggest single nose bead)	1	1	1	0	1	1	0
(32) Copper reels and other copper artifacts intentionally broken and fragments deposited	1	0	0	1	2	1	0
(33) Bracelets, flat-bar, bent end to end	0	0	0	0	4	0	0
MISCELLANEOUS							
(34) Mounds in vicinity of large river	X	X	X	X	X	X	X
(35) Mounds frequently occur in groups of two or more	0	?	3	2	6	0	0
(36) Woven textiles preserved by copper salts	0	0	0	0	1	2	1
Total number of times traits present	20	27	25	16	31	25	19

Table I shows the distribution of 36 selected traits on 7 sites in north Alabama.

These 36 traits seem to be the maximum number which could be selected for this group of sites. There is to be found very little deviation from this group by the addition of other traits at any one site. Such variations as do occur seem almost wholly due to the absence in the report on any one site of traits definitely shown by other sites to belong to the complex. When one considers the manner in which the excavations were conducted on some of the sites referred to, and the brevity of the reports available, the apparent absence of a trait at any site may be entirely due to the fact that the author did not think it worth-while to report it, even if it had been found. One great difficulty in making comparison of the finds at different sites is that the truth is often obscured or made uncertain by the variety of terms used by different investigators to express the same idea. When amphibolic schist is variously called schist, limestone, granite, indurated shale, greenstone, and green limestone, the student may be pardoned for being often in doubt as to the presence or absence of a specific trait, as indicated by a report. The knowledge of these difficulties in making comparisons of traits reported from many sites by various investigators, using different techniques, only emphasizes the importance which should be attached to any existing homogeneity which is found. It is at once apparent from this tabulation that this cultural complex involving the use of copper and galena in this way is a very compact and definite group of traits.

This group of traits, which for purpose of description herein has been called the copper-galena complex, though small, contains many quite unusual traits, and its homogeneity on these seven areas seems to justify setting it apart as distinctly different from other cultural complexes in the southeastern area, at least for the time being. It is unfortunate that the smallness of the number of traits gives so slight a glimpse of the total culture complex of which it was a part, but this is always true in archaeology and must be kept in mind when dealing with certain traits. It is certain, however, that these people, who obtained and worked native copper, buried galena with their dead, possessed many ocean shells, practiced ceremonial destruction of artifacts, and produced woven fabrics, were either well along the road to developing a specialized sedentary culture or else they may represent perhaps the degenerate form of a higher cultural complex. It is important that both of these possibilities be kept in mind, at least until this copper-galena complex is better understood.

Early history or ethnological traditions of this region offer few suggestions of possible connection between these people and any historic descendant, or with the historic tribes who later inhabited this area. Perhaps the most interesting suggestion of connection of this complex with any ethnic group of early historic times may be found in the possibility that they may have been the Yuchi, who, at the time of De Soto's expedition down the Tennessee River (1540), were reported living in the same general region of the Tennessee River which now yields the copper-galena complex.

The fact that the skeletal material from these sites has nearly all vanished, while not conclusive evidence of great age, prevents the acquisition of valuable information which well-preserved skeletons would yield. It is well known that the preservation of skeletal material is affected by so many variable factors that it is quite unsafe to regard advanced decomposition of bone material as positive proof of great age. Yet, on other sites in this region similarly situated, and not belonging to this complex, skeletal material is found by comparison well preserved. So far as it may be determined all of these sites lie wholly within the prehistoric period. Because of these facts one is constrained to feel that the copper-galena complex of northern Alabama probably antedated the other earth-mound builders of that region.

Table II.—*Rearrangement of traits of the copper-galena complex to determine those traits most basic and characteristic with a comparison of the occurrence of these traits on 7 Ohio sites*

(18) Pipes, large zoomorphic, steatite
(33) Bracelets, flat bar bent end to end
(13) Mica as burial furniture
(3) Scattered post molds
(20) Flint knives, finely chipped, 5″ to 8″ long
(21) Flat-bar gorget, steatite or chlorite
(7) Deposit of cremated bones
(17) Pipes, elbow form
(36) Woven textiles preserved by copper salts
(25) Large marine shell vessels
(24) Disk shell beads
(28) Copper beads, spherical, drilled
(22) Stone artifacts "killed"
(32) Reels or exceptional copper pieces "killed"
(27) Copper celts about 5″ long
(35) Mounds frequently occur in groups
(4) Foreign clay in pits
(30) Spool-shaped ear ornaments
(29) Copper beads, cylindrical, rolled sheets
(16) Celts, greenstone, 17″ to 7″ long, pointed
(15) Spades, or exceptional artifacts, under head
(31) Long copper bead with teeth
(8) Skull, disarticulated, separated
(14) Flexed or bundle burials
(19) Spades, schist, many large—1 x 6 x 26″
(10) Artifacts accompany subsoil burials
(9) Burial pits below mound base
(2) Mounds with inclusive burial pits
(11) Pottery vessels absent from burials
(34) Mounds in vicinity of large river
(26) Copper reel-shaped objects
(23) Deposit of galena throughout mound
(12) Galena as burial furniture
(6) Skeleton preservation poor
(5) Burials extended in the flesh
(1) Conical earth mounds

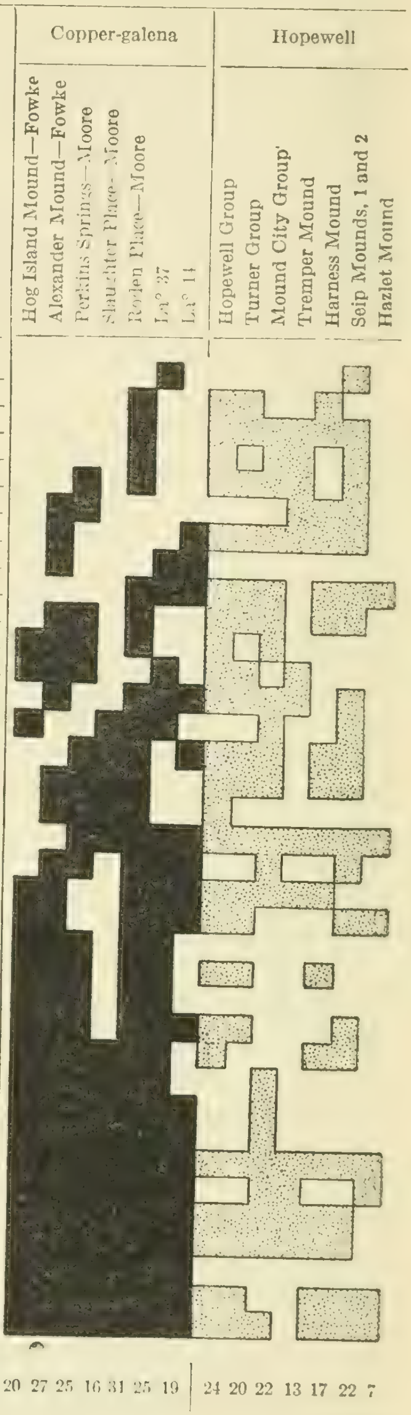

Table II represents a rearrangement of the traits in Table I in an attempt to show which traits may be regarded as more fundamental, because of wider occurrence, and therefore diagnostic.

Because the traits making up the "copper-galena complex" are so definite, and many of them unusual, it has seemed wise to inquire what evidence may be found for the possible extension of this complex beyond the immediate vicinity of the Tennessee River. So far as the author is aware there have been only two copper reel-shaped objects reported from the southeastern United States outside the immediate vicinity of the Tennessee River.

One of these, Thruston[74] reports as found in Marshall County, Tenn., about 50 miles south of Nashville, and some 55 miles northeast of Muscle Shoals on the Tennessee River in Alabama. Of this copper reel-shaped object Thruston says:

> Plate XV, A, illustrated a number of objects of copper * * *. No. 1 of the plate was probably used as a pendant or breast ornament. It was hammered from the native ore. It was recently discovered in a large artificial mound in Marshall County, Tennessee. A beautiful platform pipe of red Minnesota pipe-stone and other objects of interest were found with it.

It is a matter of regret that there is no further record of this association. The identity of the platform pipe seems now lost. It would be interesting if the form of this pipe were known and also the nature of the other accompanying artifacts.

The other copper reel-shaped object, now in the collection of the Alabama Museum at University, Ala., was found on the Coosa River, Coosa County, Ala., some 80 miles south of the region herein discussed. Nothing is known of its associations.

Thus while the occurrence of the copper reel-shaped objects in the South seems centered about a few counties in northern Alabama and seems definitely concentrated therein, it is important to note that they also occur in considerable numbers in sites in Ohio. Moore,[75] in discussing the occurrence of copper reels, of which he found a total of 19 in his explorations on the Tennessee River, says that Prof. Warren K. Moorehead has informed him that one of these "ceremonial forms" had been taken from a mound at Newark, Ohio, and that it is now in the collection of the Phillips Academy, Andover, Mass. In a communication from Dr. Frank M. Setzler he states that in a generalized copper exhibit in archaeology in the National Museum there is a copper reel which appears to have been badly bent and subsequently straightened. This copper reel came to the Museum from a resident of Portsmouth, Ohio.

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[74] Thruston, Gates P. The Antiquities of Tennessee. Cincinnati, Ohio, 1897, pl. XV, A, p. 352.

[75] Moore, C. B. Op. cit., p. 246.

Thomas[76] reports a reel-shaped copper gorget taken from a burial in Mound No. 21—the Great Smith Mound—Kanawha County, W. Va. With it were associated copper bracelets, mica, and a steatite platform pipe. This is the same mound designated as No. 59 by Greenman,[77] in his "Analysis of the Adena Culture", this copper gorget being described by him as H-shaped.

From the great cache of artifacts, numbering more than 500, taken from Tremper Mound, Mills[78] reports that six of these were reel-shaped objects, three of copper and three of banded slate. None of these were broken, although many of the accompanying artifacts in this cache were broken, apparently by intention. That this occurrence is not an isolated instance is shown by the report of Mills[79] on the Hazlett Mound on Flint Ridge. This mound covered a stone house with walls made of large boulder-like pieces of flint. Of the two burials found in the floor of this house one had two copper ear spool ornaments and also a large and well-made copper reel-shaped object. It is interesting to note that this copper reel was placed exactly under the head of the skeleton, a position often occupied by a schist spade in the copper-galena complex of the Tennessee River. Another very interesting occurrence of copper reels in Ohio is reported by Mills[80] as follows:

> In the Museum of the Society is a large cache of copper objects, representing copper plates, ear ornaments, bracelets, axes and reel-shaped ornaments, taken from an old village site of the Fort Ancient culture at Fort Ancient. All the artifacts were broken or hammered out of shape and deposited in this cache. Some of the plates, if straightened out, would measure 4 by 8 inches and all were objects that could be attributed to the Hopewell culture, although found cached away in a Fort Ancient culture village. This discovery would indicate a conflict between the two cultures, in which the objects in the cache doubtless were taken as a prize. After being carried by the Fort Ancient warriors to their village the identity of the captured loot was destroyed and the broken objects hid away in the ground. Among the copper pieces, which number more than 60, were 2 reel-shaped ornaments similar to the Tremper specimens but much larger.

In the light of our present knowledge concerning the widespread practice of "ceremonial killing" of artifacts, throughout the southeastern United States, which practice seems to symbolize the "release of the spirit," it is doubtful if Professor Mills today would feel it necessary, as in the above explanation, to invoke the aid of Fort

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[76] Thomas, Cyrus. Mound Explorations. Twelfth Ann. Rept. Bur. Ethn., Washington, D. C., 1894, p. 426.

[77] Greenman, E. F. An Analysis of the Adena Culture. Ohio Arch. and Hist. Quarterly, vol. XLI, No. 3. Columbus, July 1932, p. 431.

[78] Mills, William C. Certain Mounds and Village Sites in Ohio. Exploration of the Tremper Mound, vol. 2, pt. 3. Columbus, Ohio, 1916, pp. 210–215.

[79] Mills, William C. Certain Mounds and Village Sites in Ohio, Flint Ridge, vol. 3, pt. 3, Columbus, Ohio, 1921, p. 236, fig. 30.

[80] Mills, William C. Tremper Mound, vol. 2, pt. 3, p. 213.

Ancient warriors to account for the broken and damaged condition of the copper artifacts taken from this cache. Because of the frequency with which evident intentional destruction of artifacts has been found on Hopewell sites, it may well be doubted if the Fort Ancient people had anything to do with the burial of this cache. If they did indeed bury these artifacts, it would be in the direction of simplification to attribute the bent and broken condition of these artifacts to the acts of their original Hopewell owners.

Since the copper reel-shaped objects found in Ohio are usually associated with copper ear spools, copper celts, large marine shells, pointed-pole greenstone celts, all of which are found in the copper-galena complex in Alabama, it is natural to inquire if galena has been found in association with copper artifacts in any of the Ohio mounds. Mills[81] reported galena crystals found sparingly in the great cache of the Tremper Mound and that many large crystals were found in the mound itself above the floor. Mills[82] reports galena as abundant in the Hopewell group of mounds, and as occurring but rarely in the Mound City group.

In the exploration of the Turner group of earthworks, Willoughby[83] reports galena occurring in extended burials, together with spool-shaped ear ornaments of copper, and large busycon shell vessels. In the exploration of Seip Mound No. 1, in 1925–28, Shetrone and Greenman[84] found eight pipes together in a cache. Three were the usual platform pipes, typical of the Hopewell sites, but five were of steatite and of the heavy zoomorphic type. Two of these pipes were representations of the dog, and in size, form, and manner of manufacture very closely resemble the large pipe (pl. 41, *b*) taken from burial No. 2, Site La° 37. Since Thruston[85] has reported such pipes from Tennessee, Shetrone and Greenman[86] see in this find a southern connection when they say:

> It is very evident that the five effigy pipes from the Seip mound do not pertain to the Hopewell culture, and that they are typical of the Tennessee-Cumberland region. In view of the fact that the Hopewell peoples drew largely upon the southland for supplies of raw materials, it is not surprising to find that they at times availed themselves of finished specimens, obtained through barter or in any manner from peoples of that region.

It is therefore apparent that a very considerable number of the traits listed in table II as constituting the copper-galena complex in northern Alabama have in greater or less frequency been found in the Tremper mound, the Hopewell mounds, the Turner earthworks, and other similar sites in Ohio commonly classed as Hopewell sites by Professor Mills and others. It is not, therefore, surprising that in the Alabama complex the burial of bodies extended in the flesh should be the rule, but that occasional deposits of cremated remains with artifacts should occur, and that occasional "ceremonial" destruction of the most beautiful artifacts before their deposit as mortuary offerings should have been practiced. The intentional destruction of artifacts as a custom on Hopewell sites and its possible relation to cremation is discussed by Mills[87] when he says:

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[81] Mills, William C. Certain Mounds and Village Sites in Ohio. Exploration of the Hopewell Group, vol. 4, pt. 4, Columbus, Ohio, 1926, p. 303.

[82] Ibid.

[83] Willoughby, Charles C. The Turner Group of Earthworks. Hamilton County, Ohio. Papers of the Peabody Museum. Harvard Univ., vol. VIII, No. 3, 1922, pp. 17–22.

[84] Shetrone, H. C., and Greenman, E. F. Explorations of the Seip Group of Prehistoric Earthworks. Ohio Archaeological and Historical Quarterly, vol. XL, No. 3, July 1931, Columbus, Ohio, p. 423.

[85] Thruston, Gates P. Op. cit., p. 203.

[86] Shetrone, H. C., and Greenman, E. F. Op. cit., p. 423.

> The grave, a slight depression upon the floor, contained the cremated bones of one individual, with which were 16 copper artifacts, consisting of breastplates, ear ornaments, and pendants. These specimens were hammered and doubled together, with the idea of destroying their intrinsic value—a proceeding customary where objects were placed in open graves, the idea being to preclude the possibility of their being stolen by derelict members of the tribe for personal use. This "killing" ceremony seems to have been widespread, and aside from the practical purpose served may have carried with it something of the idea contained in the cremation ritual—the release of the spiritual essence of the object. In the instance of incombustible artifacts, the breaking or mutilating of the object may have served as did cremation with those which were combustible. That this procedure was anything more than a common-sense precaution, however, is not indicated definitely, for in the more pretentious burials of the mounds of this group, where the cremated remains immediately were covered by a primary protecting mound, artifacts as a rule were deposited entire. The only definite inference to be drawn is that broken and mutilated artifacts placed with the dead served equally well the purpose of perfect specimens.

In order to determine the extent of coincidence of traits of the copper-galena complex on Hopewell sites there has been added to table II a section showing the occurrences of these 36 traits on 7 Ohio sites definitely belonging to the Hopewell complex. The occurrence of these individual traits on each of these Ohio sites is shown graphically in parallel columns as an extension of table II. This information is taken largely from the table of Hopewell traits prepared by Shetrone,[88] and supplemented by extracts from the various reports on Hopewell sites in Ohio.

This table, of course, refers to only a very small portion of the total number of traits designated by Shetrone as belonging to the Hopewell complex, and it is to be noted that some of the more outstanding traits of the copper-galena complex, such as the occurrence of copper reels, copper beads, and galena balls, while present in Hopewell sites, are by no means the most important of that very rich and highly developed cultural manifestation. The Hopewell complex, presenting as it does the use of native copper from the Lake Superior region, marine shells from the Gulf, mica from North Carolina, pearls from Ohio and Tennessee, obsidian from Yellowstone National Park, shark teeth from the Gulf, and alligator teeth from Florida, contains internal evidence of having gathered its material wealth from far beyond the bounds of its known habitat. It is reasonable to assume that along with these material supplies there came by trade and travel many influences on manners, customs, and knowledge of techniques from far countries. These influences, though nonmaterial, were doubtless nonetheless potent.

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[87] Mills, William C. Certain Mounds and Village Sites in Ohio. Exploration of the Mound City Group, vol. 3, pt. 4, Columbus, Ohio, 1922, p. 225.

[88] Shetrone, H. C. Explorations of the Hopewell Group. Ohio Archaeological and Hist. Quarterly, vol. 35, No. 1, Columbus, 1926, p. 224.

By thus conceiving the Hopewell complex of traits as the result of a high development of an able people, who, over a long period of time, drew to themselves the best cultural and material wealth from a large area, and like any metropolis of modern times radiated a powerful influence on customs and techniques to all less-favored areas, one comes to understand that it is hardly to be expected that any other area in the United States is likely to be found showing a cultural complex comparable in wealth and variety with the Hopewell of Ohio. For this reason, the absence in the copper-galena complex of many important Hopewell traits is to be expected, and this fact as an aid in defining the copper-galena complex is not so significant. But the fact that some 32 of the 36 traits of the Alabama complex are found on Hopewell sites, and not in any other well-developed complex, by contrast is very important.

Further it may be noted that the very advanced state of decay shown by all skeletons so far found in the copper-galena sites would seem to indicate that if burials in these sites had ever had carved bone artifacts, decorated bear canines, pearl beads, or cut animal jaws, they would most probably have disappeared by decay as the human skeletons have done—in some cases completely, not even teeth being found. The failure to find some bone and shell artifacts in the copper-galena complex, therefore, does not absolutely establish their original absence when the mounds were built. However, since it is unscientific to make positive deductions from negative evidence, until some bone artifacts are found preserved in this complex, it is impossible to draw any final conclusions on this point.

It is well known that the Tennessee River has produced many fine pearls, and other prehistoric dwellers on its banks have been possessed of quantities of pearls, some of which they have left in their burial tumuli. It may even be possible that some of the Ohio Hopewell pearls had a common origin with the great shell mounds along the bank of the Tennessee River.

Another approach to the problem of understanding the copper-galena complex may be made by comparing it to the group of traits used to define Hopewell, by those most familiar with it. Quoting from Shetrone and Greenman [89] after the completion of the excavation of Seip mound No. 1, they say:

> In the report on the excavations of the Hopewell group was included an estimate of the characteristics of Hopewell culture on the basis of the 6 groups which had been excavated up to that time. In this report the first 14 items in the following list were described as common to the 6 groups.
>
> Table 1
>
> *1. Post molds in the floor.
> 2. Crematory basins.
> *3. Cremation.
> *4. Woven fabric.
> 5. Potsherds.
> **6. Copper artifacts.
> 7. Mica artifacts.
> 8. Bone perforators.
> 9. Flint-flake knives.
> *10. Flint points or blades.
> *11. Shell beads.
> 12. Pearl beads.
> *13. Copper ear spools.
> *14. Stone gorgets.
> 15. Earthwork enclosures.
> **16. Situation near streams.
> 17. Specially prepared floors.
> **18. Remains of more than one individual in mounds.
>
> With the addition of Seip mound No. 1 to this list it remains the same. The last 4 items are added, making therefore a total of 18 items which are common to all the 7 mound groups which have been excavated to date.

Of these 18 traits which occur on every one of the 7 great Hopewell groups, 10 of them have been found on sites of the copper-galena complex, and 3 of these 18 traits occur in every one of the 7 sites of this complex in Alabama so far investigated. The occurrence of any one of these traits in Alabama has been indicated by placing before its number in the above table an asterisk (*), and two such symbols (**) are used to indicate the occurrence of the trait on all sites of the copper-galena complex.

Shetrone and Greenman [90] point out that while table 1 shows the importance of these traits in the Hopewell culture complex, it does not define it and set it apart from other groups, since other groups (as in the case of the copper-galena complex of Alabama) may also to some extent contain the same traits.

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[89] Shetrone, H. C., and Greenman, E. F. Op. cit., pp. 500–501.
[90] Ibid., pp. 501–502.

Thus to separate Hopewell from other cultural complexes these authors supply another list of traits, of which they say:

> There are features of sufficient quantitative importance in individual mound groups to stamp them as representatively Hopewell wherever they may be found, for the reason that they do not occur in other cultures, excepting perhaps intrusively or in a much-diluted form, and not in any case in many instances. These are as follows:

TABLE 2

1. The burial platform, with its outline of log molds.
2. Crematory basins.
3. Gravel-covered primary mounds.
4. Geometric earthworks.
5. The platform pipe.
6. Certain distinctive designs incised on pottery and cut or incised in bone, copper, mica, and shell.
7. Copper human-effigy nostrils.
8. Conjoined copper tubes.
9. Copper rods with bone handles.
10. Copper headplates.
11. Large ceremonial copper celts.
12. Copper breastplates.
13. Copper ear spools.

When compared to this list of traits the copper-galena complex of Alabama can claim only one trait, No. 13; but that trait occurs on five of the seven sites of the copper-galena complex so far investigated.

Further, it should not be a matter of surprise that an area showing evidence of such long and intensive prehistoric occupancy as northern Alabama and which had possible access for prehistoric man, by way of the mighty Tennessee and Ohio Rivers with the Hopewell area in Ohio, should show some similarities in cultural traits. In fact, such relationship has been predicted by McKern,[91] when he said:

> In any case, the Hopewell culture shows sufficient affinities with middle and lower Mississippi, as apparent in techniques and motifs in decorative patterns on pottery, shell, bone, stone, mica, and metal, to render necessary a more thorough study of southern cultures, involving new classifications, and a more detailed comparison of southern traits with those of Hopewell and other northern cultures.
>
> In summary, it becomes more and more apparent that a basic culture, of which Ohio Hopewell seems to have been the most complex expression and which at the present stage of study may be called Basic Hopewell, had a wide geographical distribution and influence. The specific extent of its diffusion remains to be determined, and there is the strong probability that the solution of the problem will not even be approximated preceding a more intensive attack from the southern angle of approach.

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[91] McKern, W. C. A Wisconsin Variant of the Hopewell Culture. Bulletin of the Public Museum of the City of Milwaukee, vol. 10, No. 2. Milwaukee, 1931, p. 239.

Setzler,[92] in studying the pottery obtained by Gerard Fowke in 1926 from the Marksville site in Louisiana, pointed out a definite similarity in form—decoration technique, and construction of vessels from Marksville with those associated only with Hopewellian sites in Ohio, Wisconsin, Iowa, and Michigan. This led him to the following conclusion:

> * * * It would seem, however, from the foregoing facts that Louisiana, Mississippi, and possibly Arkansas must be considered in the distribution of Hopewell-like traits. These similarities might be due entirely to commercial intercourse, but they seem too widespread for such a simple explanation. * * *
>
> At the present time no evidence has been found in Ohio, Indiana, Illinois, Iowa, Michigan, or Wisconsin that will enable anthropologists to determine either the ethnological or linguistic connections between this highly developed archeological culture and the recognized Indian stocks. It would seem from the Marksville evidence that further scientific investigations in this portion of the Southeast should produce definite evidence regarding the origin, development, and migration of this interesting archeological culture.

It may be noted that Marksville, La., is about 350 miles southeast as the crow flies from the region producing the copper-galena complex of Alabama.

In view of the increase in archaeological information available since 1931 when the report on Seip mound No. 1 was written, and the very widespread occurrence of many Hopewell-like traits in Indiana, Illinois, Iowa, Wisconsin, Michigan, and the States of the lower Mississippi Valley, which occurrence has been made apparent within the last few years, it seems today the part of wisdom to accept table 1 of Shetrone and Greenman as differentiating between Hopewell (in which all of these traits occur) and a more generalized division "Hopewellian," where only some important group of these traits is definitely characteristic. If such a view is accepted, then table 2 becomes merely a list of diagnostic traits of the Hopewell complex as it is found in Ohio.

Finally, in considering what significance is to be attached to the apparent similarity in the two regions, Ohio and Alabama, of some 32 traits, it is difficult to believe that the coincidence of so large a number of such unusual traits in two separate areas can be unrelated as to origin. It seems difficult to explain how native copper, originating presumably in the Lake Superior region, could reach northern Alabama and be represented there in such quantity in this highly specialized form. It is hardly satisfying to point out that the great river courses were routes of trade. They were that obviously, but it would appear necessary to assume a more potent influence than the mere transfer of material things to account for such widespread similarities. As yet nothing is known of the chronological relation of Hopewell and the copper-galena complex, and there may have been a considerable difference in time between them. However, it seems possible to suggest in terms of the latest taxonomic method of classification that the copper-galena complex may be tentatively regarded as a manifestation of the Hopewellian phase.

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[92] Setzler, Frank M. Pottery of the Hopewell Type from Louisiana. No. 2963, Proc. U. S. Nat. Mus., vol. 82, art. 22, Smithsonian Institution, Washington, D. C., 1933, pp. 20–21.

Upon this basis it might be presented as follows:

Culture Classification of the Copper-Galena Complex of Northern Alabama

Basic culture: (———.)
  Phase: Hopewellian.
    Aspect: (Southern).
      Focus: COPENA (COPper—galENA).
        Component:
          1. Hog Island.
          2. Alexander.
          3. Perkins Springs.
          4. Slaughter Place.
          5. Roden Mound.
          6. Lauderdale °37.
          7. Tick Island La° 14.

Under this classification the diagnostic traits of the Copena Focus, by which this manifestation is differentiated from Hopewell, may be seen from table II to be traits Nos. 2, 6, 9, 10, 17, 19, and 31. The suggestion of such a classification assumes cultural relationship between the copper-galena complex and Hopewell as manifested in Ohio. While the evidence presented herein may warrant such a tentative suggestion, certainly there has been presented no evidence to show how this cultural relationship may have come about. However, this suggestion is only tentative and until a detailed analysis has been made of the southern and northern elements making up the Hopewellian phase final conclusions must be withheld.

Because of the widespread occurrence over much of the southeastern United States of scattered traits definitely recognizable as "Hopewellian" it may be that future investigations will develop an aspect of the Hopewellian phase to which the Copena Focus is more closely related than it is to the Hopewell aspect of Ohio.

This emphasizes the great need for more careful and more extended archaeological field work in the southeastern United States. In the future work which is contemplated in the new basins to be formed on the Tennessee River this problem will be given the most careful attention.

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